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OBSTETRICAL TRANSACTIONS.

VOL. XXXIV.

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OF THE

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OF

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FOR THE YEAR 1892.

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1892 TURNER, SIR WILLIAM, F.R.S., Professor of Anatomy, University of Edinburgh; 6, Eton terrace, Edinburgh.

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1891 TARNIER, STÉPHANE, M.D., Professor of Obstetrics, Faculté de Médecine de Paris; 15, Rue Duphot, Paris.

1872 THOMAS, T. GAILLARD, M.D., Professor of Obstetrics in the College of Physicians and Surgeons; 296, Fifth avenue, New York.

1862 VIRCHOW, RUDOLF, M.D., Professor of Pathological Anatomy in the University of Berlin.

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1876 CHADWICK, JAMES R., M.A., M.D., Physician for Diseases of Women, Boston City Hospital; Clarendon street, Boston, Massachusetts, U.S.

1877 GOODELL, WILLIAM, A.M., M.D., Professor of Gynecology in the University of Pennsylvania; 1418, Spruce street, Philadelphia, Pennsylvania.

1877 STORER, HORATIO R., M.D.,Newport, Rhode Island, U.S.A.

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1893.

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1859 ANDREWS, JAMES, M.D., Everleigh, Green hill, Hampstead, N.W. *Council*, 1881.

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1863† CAYZER, THOMAS, Mayfield, Aigburth, Liverpool.

1875† CHAFFERS, EDWARD, F.R.C.S., 54, North street, Keighley, Yorkshire.

1876* CHAMPNEYS, FRANCIS HENRY, M.A., M.D. Oxon., F.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Bartholomew's Hospital; 42, Upper Brook street, W. *Council*, 1880-1. *Hon. Lib.* 1882-3. *Hon. Sec.* 1884-7. *Vice-Pres.* 1888-90. *Board Exam. Midwives*, 1883, 1888-90; *Chairman*, 1891-93. *Trans.* 16.

1859 CHANCE, EDWARD JOHN, F.R.C.S., Surgeon to the Metropolitan Free Hospital and City Orthopædic Hospital; 14, Russell square, W.C.

1867*†CHARLES, T. EDMONDSTOUNE, M.D., Cannes, France. *Council*, 1882-4.

1874† CHARLESWORTH, JAMES, M.D., Physician to the North Staffordshire Infirmary; 25, Birch terrace, Hanley, Staffordshire.

1886† CHARPENTIER, AMBROSE E. L., M.D. Durh., 60, High street, Uxbridge.

1892† CHEPMELL, CHARLES WILLIAM JAMES, M.D. Brux., 87, Buckingham road, Brighton.

1868*†CHILD, EDWIN, "Vernham," New Malden, Kingston-on-Thames, Surrey.

1890† CHILDE, CHARLES PLUMLEY, B.A., F.R.C.S., Cranleigh, Kent road, Southsea.

1883† CHILDS, CHRISTOPHER, M.A., M.D. Oxon., Lindisfarne, Weymouth. *Hon. Loc. Sec.*

1863*†CHISHOLM, EDWIN, M.D., Abergeldie, Ashfield, near Sydney, New South Wales. [Per Messrs. Turner and Henderson, care of Messrs. W. Dawson, 121, Cannon street, E.C.]

Elected

1883 CLAPHAM, EDWARD, M.D., 29, Lingfield road, Wimbledon. *Council*, 1892-93.

1859 CLAREMONT, CLAUDE CLARKE, Millbrook House, 1, Hampstead road, N.W.

1879 CLARKE, REGINALD, South Lodge, Lee park, Lee, S.E.

1893 CLARKE, W. BRUCE, F.R.C.S., 46, Harley street, W.

O.F.† CLAY, CHARLES, M.D., Tower Lodge, Poulton-le-Fylde, Lancashire.

1876† CLAY, GEORGE LANGSFORD, West View, 443, Moseley road, Highgate, Birmingham.

O.F.† CLAY, JOHN, Professor of Midwifery, Queen's College, Birmingham; Allan House, Steelhouse lane, Birmingham. *Council*, 1868-69. *Vice-Pres.* 1872-4.

1889 CLEMOW, ARTHUR HENRY WEISS, M.D., C.M. Edin., 1, Comeragh road, West Kensington, W.

O.F. CLEVELAND, WILLIAM FREDERICK, M.D., Stuart villa, 199, Maida vale, W. *Council*, 1863-64. *Vice-Pres.* 1875-77, 1887-89. *Trans.* 1.

1881† CLOSE, JAMES ALEX., M.B., 2031, Olive street, St. Louis, Missouri, U.S.A.

1865*†COATES, CHARLES, M.D., Physician to the Bath General and Royal United Hospitals; 10, Circus, Bath.

1882† COATES, FREDERICK WILLIAM, M.D. (travelling). *Council*, 1891-93.

1875 COFFIN, RICHARD JAS. MAITLAND, F.R.C.P. Ed., 98, Earl's Court road, W.

1878 COFFIN, THOMAS WALKER, 22, Upper Park road, Haverstock hill, N.W.

1875*†COLE, RICHARD BEVERLY, M.D. Jefferson Coll. Philad., 218, Post street, San Francisco, California, U.S.

1888† COLLINS, EDWARD TENISON, Campden House, Oakfield road, Selly park, Birmingham.

1877 COLMAN, WALTER TAWELL (travelling).

Elected

1866† COOMBS, JAMES, M.D., Bedford.

1874 COOPER, HERBERT, L.R.C.P. Ed., Thurlow House, Hampstead, N.W.

1888 COOPER, PETER, L.R.C.P.Lond., Stainton Lodge, 35, Shooter's Hill road, Blackheath, S.E.

1890 COPELAND, WILLIAM HENRY LAURENCE, M.B.Cantab., 59, Warwick road, Earl's Court, S.W.

1888† CORBY, HENRY, B.A., M.D., 62, South Mall, Cork.

1875*†CORDES, AUG., M.D., M.R.C.P., Consulting Accoucheur to the "Miséricorde;" Privat Docent for Midwifery at the University of Geneva; 12, Rue Bellot, Geneva. *Trans.* 1.

1883 CORNER, CURSHAM, 113, Mile End road, E.

1888† CORNISH, CHARLES NEWTON, L.R.C.P. Ed., Bushey Heath, Herts.

1860*†CORRY, THOMAS CHARLES STEUART, M.D., Senior Surgeon to the Belfast General Dispensary; Ormeau terrace, Belfast. *Council*, 1867. *Vice-Pres.* 1891-93. *Hon. Loc. Sec.*

1888† CORY, ISAAC RISING, L.R.C.P. Lond., Shere, Guildford.

1875 CORY, ROBERT, M.D., Assistant Obstetric Physician to St. Thomas's Hospital; 73, Lambeth Palace road, S.E. *Council*, 1879-81, 1884-5. *Vice-Pres.* 1887-88. *Trans.* 1.

1886† COX, JOSHUA JOHN, M.D. Ed., St. Ronan's, Clarendon road, Eccles, Manchester.

1869† COX, RICHARD, M.D. St. And., Theale, near Reading. *Trans.* 1.

1893† CRAIG, JAMES, M.D. Edin., Brisgow House, Beckenham.

1877 CRAWFORD, JAMES, M.D. Durh., Grosvenor Mansions, 80, Victoria street, S.W.

1881† CREASY, JAMES GIDEON, West House, Wrotham, Kent.

1876† CREW, JOHN, Manor House, Higham Ferrers, Northamptonshire.

Elected

1893 CRIPPS, WILLIAM HARRISON, F.R.C.S., 2, Stratford place, W.

1889† CROFT, EDWARD OCTAVIUS, L.R.C.P. Lond., 8, Clarendon road, Leeds.

1881† CRONK, HERBERT GEORGE, M.B. Cantab., Repton, near Burton-on-Trent.

1886*†CROSS, WILLIAM JOSEPH, M.B., Horsham, Victoria, Australia.

1889† CROUCH, EDWARD THOMAS, Lee House, Stoke road, Gosport.

1875* CULLINGWORTH, CHARLES JAMES, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Obstetric Medicine at, St. Thomas's Hospital; 46, Brook street, Grosvener square, W. *Council*, 1883-5, 1891-93. *Vice-Pres.* 1886-8. *Board Exam. Midwives*, 1889-91. *Trans.* 9.

1859† CURGENVEN, J. BRENDON, Teddington Hall, Teddington. *Council*, 1870-72. *Trans.* 3.

1889*†CURSETJI, JEHÁNGIR J., M.D. Brux., 94, Chundunwádi, Bombay.

1885 DAKIN, W. RADFORD, M.D., Obstetric Physician to, and Lecturer on Midwifery at, St. George's Hospital; 57, Welbeck street, Cavendish square, W. *Council*, 1889-91. *Hon. Lib.* 1892-93. *Trans.* 3.

1868 DALY, FREDERICK HENRY, M.D., 185, Amhurst road, Hackney Downs, N.E. *Council*, 1877-9. *Vice-Pres.* 1883-5. *Trans.* 2.

1882† DAMBRILL-DAVIES, WILLIAM R., Alderley Edge, Cheshire.

1888† DANE, ROBERT, General Hospital, Singapore, Straits Settlements.

1893 DAUBER, JOHN HENRY, M.A. Oxon., L.R.C.P. Lond., 20, Davies street, Berkeley square, W.

1889 DAVIES, FREDERICK HENRY, M.B., C.M.Edin., 40, St. Stephen's avenue, Shepherd's Bush, W.

1876 DAVIES, GOMER, L.R.C.P. Ed., 9, Pembridge villas, Bayswater, W.

Elected

1884 DAVIES, JOHN, 91, New North road, N.

1885 DAVIES, WILLIAM MORRISTON, M.D., 55, Gordon square, W.C.

1892† DAVIS, ROBERT, Oakleigh, Epsom.

1877 DAVSON, SMITH HOUSTON, M.D., Campden villa, 203, Maida vale, W. *Council*, 1889-91.

1891 DAWSON, ERNEST, L.R.C.P.Lond., The Mount, Hampstead, N.W.

1889 DAWSON, WILLIAM EDWARD, L.K.Q.C.P. & L.M., 83, Chiswell street, E.C.

1880† DAY, WILLIAM HANKES, Surgeon to the City Prisons, Norwich; 3, Surrey street, Norwich. *Trans.* 1.

1859 DAY, WILLIAM HENRY, M.D., Physician to the Samaritan Free Hospital for Women and Children; 10, Manchester square, W. *Council*, 1873-75. *Vice-Pres.* 1885-6.

1889 DES VŒUX, HAROLD A., M.D.Brux., 4, Ashley gardens, Victoria street, S.W.

1879† DOLAN, THOMAS MICHAEL, M.D., Horton house, Halifax.

1886† DONALD, ARCHIBALD, M.A., M.D. Edin., 274, Oxford road, Manchester. *Council*, 1893. *Trans.* 1.

1879* DORAN, ALBAN H. G., F.R.C.S., Surgeon to the Samaritan Free Hospital; 9, Granville place, Portman square, W. *Council*, 1883-5. *Hon. Lib.* 1886-7. *Hon. Sec.* 1888-91. *Vice-Pres.* 1892-93. *Trans.* 11.

1890† DOUTY, EDWARD HENRY, M.A., M.B., B.C. Cantab., 69, Bridge street, Cambridge.

1887 DOVASTON, MILWARD EDMUND, 81, Queen's crescent, Haverstock hill, N.W.

1880 DOWNES, DENIS SIDNEY, L.K.Q.C.P.I., 55, Kentish town road, N.W.

1884† DOYLE, E. A. GAYNES, L.R.C.P., Colonial Hospital. Port of Spain, Trinidad.

O.F.† DRAGE, CHARLES, M.D., Hatfield, Herts. *Council*, 1861-4, *Trans.* 1.

Elected

1885† DRAGE, LOVELL, M.A., M.B., B.S. (Oxon), Burleigh Mead, Hatfield.

1871† DRAKE-BROCKMAN, EDWARD FORSTER, F.R.C S., L.R.C.P. Lond., Brigade-Surgeon; Superintendent Eye Infirmary, Madras; Professor of Physiology and Ophthalmology, Madras Medical College. [*Per* Messrs. Richardson and Co., East India Army Agency, 25, Suffolk street, Pall Mall, S.W.]

1884 DRAKE, CHARLES HENRY, 204, Brixton hill, S.W.

1883 DUNCAN, ALEXANDER GEORGE, M.B., 25, Amhurst park, Stamford hill, N.

O.F. DUNCAN, JAMES, M.B., 8, Henrietta street, Covent garden, W.C. *Council*, 1873-74.

1882 DUNCAN, WILLIAM, M.D., Obstetric Physician to, and Lecturer on Obstetric Medicine at, the Middlesex Hospital; 6, Harley street, W. *Council*, 1885-6, 1888-89. *Hon. Lib.* 1890-91. *Hon. Sec.* 1892-93. *Trans.* 2.

1893† DUNN, PHILIP HENRY, L.R.C.P. Lond., Stevenage, Herts.

1891 EADY, GEORGE JOHN, M.D.Brux., Glengarry, West End lane, West Hampstead, N.W.

1871 EASTES, GEORGE, M.B., F.R.C.S., 35, Gloucester place, Hyde park, W. *Council*, 1878-80.

1883† ECCLES, F. RICHARD, M.D., Professor of Physiology, Western University; 1, Ellwood place, Queen's avenue, London, Ontario, Canada.

1892 ECCLES, WILLIAM MCADAM, M.B., B.S. Lond., St. Bartholomew's Hospital, E.C.

1893 EDEN, THOMAS WATTS, M.D., C.M. Edin., Queen Charlotte's Hospital, Marylebone road, N.W.

1890† EHRMANN, ALBERT, L.R.C.P.Lond., Bitterne, near Southampton.

1879† ELDER, GEORGE, M.D., C.M., Surgeon to the Samaritan Hospital for Women, Nottingham; 17, Regent street, Nottingham.

Elected

1878† ELLERY, RICHARD, L.R.C.P. Ed., Plympton, Devon.

1873† ENGELMANN, GEORGE JULIUS, A.M., M.D., 3003, Locust street, St. Louis, Missouri, U.S.

1884 ENGLISH, THOMAS JOHNSTON, M.D., 128, Fulham road, S.W.

1892† EVANS, JOHN MORGAN, L.R.C.P.Lond., Llandrindod Wells, Radnorshire.

1875† EWART, JOHN HENRY, Eastney, Devonshire place, Eastbourne.

1876† FARNCOMBE, RICHARD, 40, Belgrave street, Balsall heath, Birmingham.

1869 FARQUHAR, WILLIAM, M.D., Deputy Surgeon-General, 17, St. Stephen's road, Bayswater, W.

1861 FARR, GEO. F., L.R.C.P. Ed., Slade House, 175, Kennington road, S.E. *Council*, 1885.

1882† FARRAR, JOSEPH, M.D., Gainsborough.

1868* FEGAN, RICHARD, M.D., Westcombe park, Blackheath, S.E.

1888† FEGEN, CHARLES MILTON, Devonshire House, Brandon, Suffolk.

1886 FENNELL, DAVID, L.K.Q.C.P.I., 35, The Grove, Highbury, N.

1883 FENTON, HUGH, M.D., 27, George street, Hanover square, W.

1886† FISHER, FREDERICK BAZLEY, L.R.C.P. Lond., West Walk House, Dorchester.

1882† FITZGERALD, CHARLES EGERTON, M.D., West Terrace, Folkestone.

1892† FINNY, W. EVELYN ST. LAWRENCE, M.B. Dubl., Kenlis, Queen's road, Kingston hill.

1877*†FONMARTIN, HENRY DE, M.D., 1, Anchor Gate terrace, Portsea.

1884† FORD, ALEXANDER, L.R.C.P. Ed., 9, Beresford street, Waterford.

1877*†FORD, JAMES, M.D., Eltham, Kent.

Elected

1884 FOURACRE, ROBERT PERRIMAN, 20, Tollington park, N.

1886† FOWLER, CHARLES OWEN, M.D., Trevor Lodge, Thornton heath.

1875*†FRASER, ANGUS, M.D., Physician and Lecturer on Clinical Medicine to the Aberdeen Royal Infirmary; 232, Union street, Aberdeen.

1888† FRASER, JAMES ALEXANDER, L.R.C.P. Lond., Western Lodge, Romford.

1867† FREEMAN, HENRY W., 24, Circus, Bath. *Council*, 1891-93.

1880† FRY, JOHN BLOUNT, Ashley Lodge, Esher, Surrey.

1883 FULLER, HENRY ROXBURGH, M.D. Cantab., 45, Curzon street, Mayfair, W. *Council*, 1893. *Trans.* 1.

1886† FURNER, WILLOUGHBY, F.R.C.S., 2, Brunswick place, West Brighton. *Hon. Loc. Sec.*

1874* GALABIN, ALFRED LEWIS, M.A., M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, Guy's Hospital; 49, Wimpole street, Cavendish square, W. *Council*, 1876-78. *Hon. Lib.* 1879. *Hon. Sec.* 1880-3. *Vice-Pres.* 1884. *Treas.* 1885-8. *Pres.* 1889-90. *Trans.* 12.

1888 GALLOWAY, ARTHUR WILTON, L.R.C.P. Lond., 79, New North road, N.

1863 GALTON, JOHN H., M.D., Chunam, Sylvan road, Upper Norwood, S.E. *Council*, 1874-6, 1891-92.

1881 GANDY, WILLIAM, Hill Top, Central hill, Norwood, S.E.

1886† GARDE, HENRY CROKER, F.R.C.S. Edin., Maryborough, Queensland.

1887 GARDINER, BRUCE H. J., L.R.C.P. Ed., Gloucester House, Barry road, East Dulwich, S.E.

1879† GARDNER, JOHN TWINAME, Northfield House, Ilfracombe.

1872† GARDNER, WILLIAM, M.A., M.D., Professor of Gynæcology, McGill University; Gynæcologist to the Montreal General Hospital; 109, Union avenue, Montreal, Canada.

Elected

1892† GARDNER, WILLIAM, M.B., C.M.Glas., Melbourne (c/o The Manager, Commercial Bank of Australia, 1, Bishopsgate street Within, E.C.).

1876† GARNER, JOHN, 52, New Hall street, Birmingham.

1891† GARRETT, ARTHUR EDWARD, L.R.C.S., & L.M.Ed., The Limes, Rickmansworth.

1873† GARTON, WILLIAM, M.D., F.R.C.S., Inglewood, Aughton, near Ormskirk.

1889* GELL, HENRY WILLINGHAM, M.A., M.B. Oxon., 43, Albion street, Hyde park, W.

1859* GERVIS, HENRY, M.D., F.R.C.P., Consulting Obstetric Physician to St. Thomas's Hospital; 40, Harley street, Cavendish square. *Council*, 1864-66, 1889-91, 1893. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-3. *Treas.* 1878-81. *Pres.* 1883-4. *Trans.* 8.

1866* GERVIS, FREDERICK HEUDEBOURCK, 1, Fellows road, Haverstock hill, N.W. *Council*, 1877-9. *Vice-Pres.* 1892. *Trans.* 1.

1884† GIBB, CHARLES JOHN, M.D., Westgate House, Newcastle-on-Tyne.

1875 GIBBINGS, ALFRED THOMAS, M.D., 93, Richmond road, Dalston, N.E. *Council*, 1885-6, 1888.

1883 GIBBONS, ROBERT ALEXANDER, M.D., Physician to the Grosvenor Hospital for Women and Children; 29, Cadogan place, S.W. *Council*, 1889-90. *Trans.* 1.

1874† GIBSON, JAMES EDWARD, Hillside, West Cowes, Isle of Wight.

1892 GILES, ARTHUR EDWARD, M.D. Lond., M.R.C.P., 2, Harewood-square, N.W.

1869 GILL, WILLIAM, L.R.C.P. Lond., 11, Russell square, W.C.

1891 GIMBLETT, WILLIAM HENRY, L.R.C.P.I., 34, Pembury road, Clapton, N.E.

1891† GLEDDEN, ALFRED MAITLAND, M.D., c/o L. Bruck, 13, Castlereagh street, Sydney, N.S.W.

Elected

1871 GODDARD, EUGENE, M.D. Durh., North Lynne, Highbury New Park, N. *Trans.* 1.

1871 *GODSON, CLEMENT, M.D., C.M.; 9, Grosvenor street, W. *Council*, 1876-77. *Hon. Sec.* 1878-81. *Vice-Pres.* 1882-4. *Board Exam. Midwives*, 1877, 1882-86. *Trans.* 5.

1868† GODWIN, ASHTON, M.D., 9, Prospect terrace, Ramsgate.

1883 GORDON, JOHN, M.D., 20, Wickham road, Brockley, S.E.

1869† GOSS, TREGENNA BIDDULPH, 1, The Circus, Bath. *Hon. Loc. Sec.*

1891† GOSTLING, WILLIAM AYTON, M.D., B.S.Lond., Barningham, West Worthing.

1889 GOULLET, CHARLES ARTHUR, L.R.C.P.Lond., 2, Finchley road, N.W.

1890 GOW, WILLIAM JOHN, M.D.Lond., Physician-Accoucheur in charge of Out-patients, St. Mary's Hospital; 13, Upper Wimpole street, W. *Council*, 1893.

1893† GOWAN, BOWIE CAMPBELL, L.R.C.P.Lond., Raven Dene, Great Stanmore.

1885† GRANT, OGILVIE, M.D., Queen Mary's House, Inverness.

1890† GRAY, HARRY ST. CLAIR, M.D. Glas., 15, Newton terrace, Glasgow.

1875† GRAY, JAMES, M.D., 15, Newton terrace, Glasgow.

1890 GREEN, CHARLES DAVID, M.D.Lond., Addison House, Upper Edmonton.

1884† GREENE, WALTER, L.R.C.P. Lond., Wallingford.

1887 GREENWOOD, EDWIN CLIMSON, L.R.C.P., 19, St. John's wood park, N.W.

1863 *GRIFFITH, G. DE GORREQUER, 34, St. George's square, S.W. *Trans.* 2.

1879* GRIFFITH, WALTER SPENCER ANDERSON, M.D. Cantab., F.R.C.S., M.R.C.P., Assistant Physician-Accoucheur to St. Bartholomew's Hospital; 114, Harley street, W. *Council*, 1886-8, 1893. *Board Exam. Midwives*, 1887-89. *Trans.* 6.

Elected

1870 *Grigg, William Chapman, M.D., Physician to the In-patients, Queen Charlotte's Lying-in Hospital; Assistant Obstetric Physician to the Westminster Hospital; 27, Curzon street, Mayfair. *Council*, 1875-77. *Board Exam. Midwives*, 1878-79.

1888*†Grimsdale, Thomas Babington, B.A., M.B. Cantab., 50, Rodney street, Liverpool.

O.F.† Grimsdale, Thos. F., L.R.C.P. Ed., Consulting Surgeon to the Lying-in Hospital; 29, Rodney street, Liverpool. *Council*, 1861-62. *Vice-Pres.* 1875-76.

1882† Gripper, Walter, M.B. Cantab., The Poplars, Wallington, Surrey.

1880 Grogono, Walter Atkins, Berwick House, Broadway, Stratford, E.

1879† Grove, William Richard, M.D., St. Ives, Huntingdonshire.

1892 Gubb, Alfred Samuel, M.D. Paris, 29, Gower street, W.C.

1887† Hackney, John, M.D. St. And., Oaklands, Hythe.

1881† Hair, James, M.D., Brinklow, Coventry.

1889 Hale, Charles D. B., M.D., 8, Sussex gardens, Hyde park, W.

1889† Hall, Frederick, M.D. St. And., St. Mark's House, Leeds.

1871† Hallowes, Frederick B., Redhill, Reigate, Surrey. *Council*, 1885-6, 1888-90.

1880 Hames, George Henry, F.R.C.S., 29, Hertford street, Park lane, W.

1887† Hamilton, John, F.R.C.S.Ed., Beechhurst House, Swadlincote, Burton-on-Trent.

1883 Handfield-Jones, Montagu, M.D. Lond., M.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery and Diseases of Women at, St. Mary's Hospital; 35, Cavendish square, W. *Council*, 1887-89. *Trans.* 1.

1860 Hardey, Key, Surgeon to the West City Dispensary; 4, Wardrobe place, Doctors' Commons, E.C.

Elected

1889† HARDWICK, ARTHUR, M.D. Durh., Newquay, Cornwall.

1886† HARDY, HENRY L. P., Holly Lodge, Richmond road, Kingston-on-Thames.

1892 HAROLD, JOHN, L.R.C.P.Lond., 72, Wimpole street, W.

1889 HARPER, CHARLES JOHN, L.R.C.P. Lond., Church end, Finchley, N.

1877 HARPER, GERALD S., M.B.Aber., 40, Curzon street, Mayfair, W.

1878† HARRIES, THOMAS DAVIES, F.R.C.S., Grosvenor House, Aberystwith, Cardiganshire.

1867* HARRIS, WILLIAM H., M.D., 32, Cambridge gardens, W.

1880* HARRISON, RICHARD CHARLTON, 13, Sandringham gardens, Ealing, W.

1893† HARRISON, SYDNEY NEVILL, M.B., B.C. Cantab., Aveley Court, Stourport.

1890† HART, DAVID BERRY, M.D.Edin., 29, Charlotte square, Edinburgh.

1886† HARTLEY, HORACE, L.R.C.P. Ed., Stone, Staffordshire.

1886† HARTLEY, REGINALD, L.R.C.P. Ed., Kirkgate House, Thirsk.

1880 HARVEY, JOHN STEPHENSON SELWYN, M.D.Durh., M.R.C.P., 1, Astwood road, Cromwell road, S.W.

1865† HARVEY, ROBERT, M.D., Abbottabad, Punjab. [Per Messrs. Cochran and Macpherson, 152, Union street, Aberdeen.] *Trans.* 1.

1886 HARVEY, SIDNEY FRED., L.R.C.P.Lond., 117A, Queen's Gate, S.W.

1892† HAWKINS-AMBLER, GEORGE ARTHUR, F.R.C.S.Ed., 162, Upper Parliament street, Liverpool.

1888† HAYCOCK, HENRY EDWARD, L.R.C.P.Ed., Ironville House, Alfreton, Derbyshire.

1893† HAYDON, THOMAS HORATIO, M.B., B.C. Cantab., 50, Mount Ararat road, Richmond, Surrey.

Elected

1873 HAYES, THOMAS CRAWFORD, M.A., M.D., F.R.C.P., Obstetric Physician to King's College Hospital, and Lecturer on Practical Midwifery at King's College; 17, Clarges street, Piccadilly, W. *Council*, 1876-78. *Vice-Pres.* 1890-91.

1880 HEATH, WILLIAM LENTON, M.D., 88A, Cromwell road, Queen's gate, S.W. *Council*, 1891. *Trans.* 1.

1893 HEELAS, WALTER WHEELER, L.R.C.P.Lond., General Lying-in Hospital, York road, S.E.

1892† HELLIER, JOHN BENJAMIN, M.D.Lond., Lecturer on Diseases of Women and Children, Yorkshire College; Surgeon to the Hospital for Women and Children, Leeds; 1, De Grey terrace, Leeds.

1890† HELME, T. ARTHUR, M.D. Edin., St. Mary's Hospital, Manchester.

1867† HEMBROUGH, JOHN WILLIAM, M.D., Earsdon, Newcastle-on-Tyne.

1876* HERMAN, GEORGE ERNEST, M.B., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, the London Hospital; 20, Harley street, Cavendish square, W. *Council*, 1878-79. *Hon. Lib.* 1880-1. *Hon. Sec.* 1882-5. *Vice-Pres.* 1886-7. *Board Exam. Midwives*, 1886-88. *Treas.* 1889-92. *Pres.* 1893. *Trans.* 26.

O.F. HEWITT, GRAILY, M.D., F.R.C.P., F.R.S.Ed., Consulting Obstetric Physician to University College Hospital; 36, Berkeley square, W. *Hon. Sec.* 1859-64. *Treas.* 1865-66. *Vice-Pres.* 1867-68. *Pres.* 1869-70. *Trans.* 21.

1860* HICKS, JOHN BRAXTON, M.D., F.R.C.P., F.R.S., Consulting Obstetric Physician to Guy's and St. Mary's Hospitals; 34, George street, Hanover square. *Council*, 1861-2, 1869. *Hon. Sec.* 1863-65. *Vice-Pres.* 1866-68. *Treas.* 1870. *Pres.* 1871-2. *Trans.* 38.

1892† HILLS, THOMAS HYDE, L.R.C.P.Lond., 60, St. Andrew's street, Cambridge.

1886† HODGES, HERBERT CHAMNEY, L.R.C.P.Lond., Watton, Herts. *Trans.* 1.

Elected

O.F. HODGES, RICHARD, M.D., F.R.C.S., 358, Camden road, N. *Trans.* 3.

1887† HODSON, HENRY ALGERNON, L.R.C.P. Ed. & L.M., 23, Brunswick square, Brighton.

1886† HOLBERTON, HENRY NELSON, L.R.C.P. Lond., East Molesey.

1875 HOLLINGS, EDWIN, M.D., 25, Endsleigh gardens, N.W. *Council*, 1888-90. *Vice-Pres.* 1893.

1886 HOLLOWAY, WILLIAM GEORGE, B.A., M.D. Cantab., 5, Bentinck street, Cavendish square, W.

1859 HOLMAN, CONSTANTINE, M.D., 26, Gloucester place, Portman square, W. *Council*, 1867-69. *Vice-Pres.* 1870-71.

1891† HOLMAN, ROBERT COLGATE, Whithorne House, Midhurst, Sussex.

1864* HOOD, WHARTON PETER, M.D., 11, Seymour street, Portman square, W.

1872 HOPE, WILLIAM, M.D., Physician to Queen Charlotte's Lying-in Hospital; 54, Curzon street, Mayfair, W. *Council*, 1877-9. *Board Exam. Midwives*, 1873-4.

1884 HOPKINS, JOHN, L.R.C.P. Ed., 93, Camberwell road, S.E.

1883* HORROCKS, PETER, M.D., F.R.C.P. Lond., Assistant Obstetric Physician to, and Demonstrator of Practical Obstetrics at, Guy's Hospital; 26, St. Thomas's street, S.E. *Council*, 1886-7. *Hon. Lib.* 1888-9. *Hon. Sec.* 1890-93. *Trans.* 1.

1876 HORSMAN, GODFREY CHARLES, 22, King street, Portman square, W.

1883 HOSKIN, THEOPHILUS, L.R.C.P. Lond., 186, Amhurst road, N.E.

1883 HOUCHIN, EDMUND KING, L.R.C.P. Ed., 23, High street, Stepney, E.

1884† HOUGH, CHARLES HENRY, Full street, Derby.

1877 HOWELL, HORACE SYDNEY, M.D., East Grove House, 18, Boundary road, St. John's Wood, N.W.

Elected

1879† HUBBARD, THOMAS WELLS, Rock House, Boughton Monchelsea, Maidstone.

1885 HUGHES, EDGAR A., L.R.C.P.Lond., 91, Onslow gardens, S.W.

1889† HUMPHRYS, CHARLES BEYER, L.R.C.P. & S. Edin., Hurst Lea, Sevenoaks.

1884*†HURRY, JAMIESON BOYD, M.D. Cantab., 43, Castle street, Reading. *Council*, 1887-9. *Trans.* 2.

1878† HUSBAND, WALTER EDWARD, 56, Bury New road, Manchester.

1882 HUTTON, ROBERT JAMES, L.R.C.P.Ed., Carshalton, Stapleton Hall road, Finsbury park, N.

1883† INMAN, ROBERT EDWARD, Gadshill Cottage, Higham, Kent.

1884† IRWIN, JOHN ARTHUR, M.A., M.D., 14, West Twenty-ninth street, New York.

1887 JACKSON, G. E. CORRIE, F.R.C.S. Ed., 5, Gt. Marlborough street, W.

1883† JACKSON, GEORGE HENRY, 6, Cliff Bridge terrace, Scarborough.

1884 JACKSON, JAMES, 15, Huntingdon street, Barnsbury, N.

1873† JAKINS, WILLIAM VOSPER, L.R.C.P. Ed., 165, Collins street East, Melbourne.

1872† JALLAND, ROBERT, Horncastle, Lincolnshire. *Trans.* 1.

1890† JAMES, CHARLES HENRY, L.R.C.P.Lond., Surg. Indian Army (care of Messrs. Grindlay and Co., 55, Parliament street, S.W.).

1877† JAMIESON, PATRICK, M.A., 3, St. Peter's street, Peterhead, Aberdeenshire.

1885† JAMIESON, ROBERT ALEXANDER, M.D., Shanghai. [Per Messrs. Henry S. King and Co., 65, Cornhill, E.C.]

1886 JAMISON, ARTHUR ANDREW, M.D. Glas., 18, Lowndes street, S.W.

1883*†JENKINS, EDWARD JOHNSTONE, M.B. Oxon., Australian Club, Sydney. [Per H. K. Lewis, 136, Gower street, W. C.]

Elected

1877† JENKS, EDWARD W., M.D., 84, Lafayette avenue, Detroit. Michigan, U.S.

1882 JENNINGS, CHARLES EGERTON, M.D. Durh., F.R.C.S. Eng., Assistant Surgeon to the North-West London Hospital; 48, Seymour street, Portman square, W.

1889† JOHNS, HENRY DOUGLAS, M.B., B.S. Durh., Ivy Lodge, Hornsea, Hull.

1883† JOHNSON, ARTHUR JUKES, M.B., 52, Bloor street West, Toronto, Ontario, Canada.

1877† JOHNSON, SAMUEL, M.D., 5, Hill street, Stoke-upon-Trent.

1881 JOHNSTON, JOSEPH, M.D., 24, St. John's Wood park, N.W. *Council*, 1891-92.

1879 JOHNSTON, WM. BEECH, M.D., 157, Jamaica road, Bermondsey, S.E.

1868† JONES, EVAN, Ty-Mawr, Aberdare, Glamorganshire. *Council*, 1886-8. *Vice.-Pres.* 1890-91. *Hon. Loc. Sec.*

1878 JONES, H. MACNAUGHTON, M.D., F.R.C.S.I. and Edin., 141, Harley street, Cavendish square, W.

1881† JONES, JAMES ROBERT, M.B., 171, Donald street, Winnipeg, Manitoba, Canada.

1868 JONES, JOHN, 60, King street, Regent street, W.

1887† JONES, J. TALFOURD, M.B. Lond., Rose Bank, South terrace, Eastbourne.

1886 JONES, LEWIS, M.D., Oakmead, Balham, S.W.

1885† JONES, P. SYDNEY, M.D., 16, College street, Hyde park, Sydney. [Per Messrs. D. Jones and Co., 1, Gresham buildings, Basinghall street, E.C.]

1873† JONES, PHILIP W., River House, Enfield.

1886† JONES, WILLIAM OWEN, The Downs, Bowden, Manchester.

1879† JOUBERT, CHARLES HENRY, M.B. Lond., F.R.C.S. Eng., Surgeon-Major, Bengal Medical Department; Obstetric Physician to Eden Hospital, and Professor of Midwifery and Diseases of Women and Children, Calcutta Medical College; 6, Harington street, Calcutta.

Elected

1878† JUDSON, THOMAS ROBERT, L.R.C.P. Lond., Hayman's Green, West Derby, Liverpool.

1875† JUKES, AUGUSTUS, M.B., N. W. Mounted Police, Regina, N.-W. Territory, Canada.

1878† KANE, NATHANIEL H. K., M.D., Lanherne, Kingston hill, Surrey.

1890† KANTHACK, ALFREDO ANTUNES, M.D. Lond., 31, Rodney street, Liverpool.

1884 KEATES, WILLIAM COOPER, L.R.C.P., 2, Tredegar villas, East Dulwich road, S.E.

1880† KEBBELL, ALFRED, Flaxton, York.

O.F. KEELE, GEORGE THOMAS, 81, St. Paul's road, Highbury, N. *Council*, 1885.

1883† KEELING, JAMES HURD, M.D., 267, Glossop road, Sheffield. *Hon. Loc. Sec.*

1890 KEITH, SKENE, M.B., C.M.Edin., 42, Charles street, Berkeley Square, W.

1874 KEMPSTER, WILLIAM HENRY, M.D., Oak House, Bridge road, Battersea, S.W.

1886 KENNEDY, ALFRED EDMUND, L.R.C.P. Ed., Chesterton House, Plaistow, E.

1879 KER, HUGH RICHARD, L.R.C.P. Ed., 14, Devonshire Road, Balham, S.W.

1872 KERR, NORMAN S., M.D., F.L.S., 42, Grove road, Regent's park, N.W.

1877*†KERSWILL, JOHN BEDFORD, M.R.C.P. Ed., Fairfield, St. German's, Cornwall.

1878† KHORY, RUSTONJEE NASERWANJEE, M.D. Brussels, L.Med. Bombay, Physician to the Parell Dispensary, Bombay; Girgaum road, Bombay.

O.F. KIALLMARK, HENRY WALTER, 5, Pembridge gardens, Bayswater. *Council*, 1879-80.

1892† KINGSCOTE, ERNEST, M.B., C.M.Edin., Crane Cottage, Salisbury.

Elected

1860† KINGSFORD, EDWARD, F.R.C.S., Surgeon to the Sunbury Dispensary; Sunbury-on-Thames.

1892† KINSEY-MORGAN, AUGUSTUS, 1, Stanhope gardens, Bournemouth.

1872* KISCH, ALBERT, 186, Sutherland avenue, W.

1876† KNOTT, CHARLES, M.R.C.P. Ed., Liz Ville, Elm grove, Southsea.

1889 LAKE, GEORGE ROBERT, 72, Gloucester crescent, Hy park, W.

1867* LANGFORD, CHARLES P., Sunnyside, Hornsey lane, N.

1883 LANGLEY, AARON, L.R.C.P. Ed., 149, Walworth road, S.E.

1886 LANKESTER, HERBERT HENRY, M.D. Lond., 1, Elm park gardens, South Kensington, S.W.

1886† LAUDER, WILLIAM, M.D. Edin., 260, Oxford road, Manchester.

1893† LAVER, HENRY, Head street, Colchester.

1887 LAW, WILLIAM THOMAS, M.D. Edin., 9, Norfolk crescent, W.

1875† LAWRENCE, ALFRED EDWARD AUST, M.D., Physician-Accoucheur to the Bristol General Hospital; 19, Richmond hill, Clifton, Bristol. *Council*, 1885-86, 1888. *Vice-Pres.*, 1889-90. *Hon. Loc. Sec. Trans.* 1.

1878† LEACHMAN, ALBERT WARREN, M.D., Fairley, Petersfield, Hants.

1884*†LEDIARD, HENRY AMBROSE, M.D., 43, Lowther street, Carlisle. *Council*, 1890-92. *Trans.* 1.

1887† LEES, EDWIN LEONARD, M.D., C.M. Ed., 2, The Avenue, Redland road, Bristol.

1860† LEISHMAN, WILLIAM, M.D., Physician to the University Lying-in Hospital, Regius Professor of Midwifery in the University of Glasgow; 11, Woodside crescent, Glasgow. *Council*, 1866-68. *Vice-Pres.* 1869-70. *Trans.* 1.

1885 LEWERS, ARTHUR H. N., M.D. Lond., M.R.C.P., Obstetric Physician to the London Hospital; 60, Wimpole street, W. *Council*, 1887-89, 1893. *Trans.* 7.

Elected

1877† LEWIS, JOHN RIGGS MILLER, M.D., Deputy-Surgeon General Markham Lodge, Liverpool road, Kingston hill, Surrey.

1885† LIDIARD, SYDNEY ROBERT, L.R.C.P. Ed., Berkeley House, Anlaby road, Hull.

1875† LIEBMAN, CARLO, M.D. Vienna, Principal Surgeon, Trieste Civil Hospital, Trieste, Austria. *Trans.* 1.

1868 LLEWELLYN, EVAN, L.R.C.P. Ed., 114, Bethune road, Stamford hill, N.

1872*†LOCK, JOHN GRIFFITH, M.A., 2, Rock terrace, Tenby.

1893† LOGAN, RODERIC ROBERT WALTER, Leighton Buzzard.

1859† LOMBE, THOMAS ROBERT, M.D., Bemerton, Torquay.

1890 LOW, HAROLD, M.B.Cantab., Round Hill Villa, Sydenham, S.E.

1893† LOWE, WALTER GEORGE, M.D. Lond., F.R.C.S., Burton-on-Trent.

1890 LUBBOCK, EDGAR ASHLEY, L.R.C.P.Lond., 4, Westfield terrace, Fulham road, S.W.

1873† LUSH, WILLIAM JOHN HENRY, M.D.Brux., Fyfield, near Andover.

1878*†LYCETT, JOHN ALLAN, M.D., Gatecombe, Wolverhampton.

1871† MCCALLUM, DUNCAN CAMPBELL, M.D., Emeritus Professor, McGill University; 45, Union avenue, Montreal, Canada. *Trans.* 4.

1890 MCCANN, FREDERICK JOHN, M.B., C.M.Edin., 34, Bernard street, W.C. *Trans.* 2.

1890 MCCAW, JOHN DYSART, F.R.C.S., Ivy House, Lincoln road, East Finchley, N.

1892† MACKAY, WILLIAM JOHN, M.B., M.Ch. Sydney, Rooty hill, Sydney, N.S.W.

1879† MACKEOUGH, GEORGE J., M.D., Chatham, Ontario, Canada.

O.F.† MACKINDER, DRAPER, M.D., Consulting Surgeon to the Gainsborough Dispensary; Gainsborough, Lincolnshire. *Council*, 1871-3. *Trans.* 2.

Elected

1893 McLean, Ewan John, M.D., C.M. Edin., Hospital for Women, Chelsea, S.W.

1886 McMullen, William, L.K.Q.C.P.I., 319A, Brixton road, S.W.

1893 Macphail, Archibald Lamont, L.F.P.S. & L.M. Glas., 138, Stoke Newington road, N.

1884 Malcolm, John D., M.B., C.M., Surgeon to the Samaritan Free Hospital; 13, Portman street, W.

1871† Malins, Edward, M.D., Obstetric Physician to the General Hospital, Birmingham; 8, Old square, Birmingham. *Council*, 1881-3. *Vice-Pres.* 1884-6. *Hon. Loc. Sec.*

1868*†March, Henry Colley, M.D., 2, West street, Rochdale. *Council*, 1890-92.

1887 Mark, Leonard P., L.R.C.P. Lond., 61, Cambridge street, Hyde-park square, W.

1860† Marley, Henry Frederick, The Nook, Padstow, Cornwall.

1862*†Marriott, Robert Buchanan, Swaffham, Norfolk.

1887† Marsh, O. E. Bulwer, L.R.C.P. Ed., Parkdale, Clytha park, Newport, Monmouthshire.

1890† Martin, Christopher, M.B., C.M.Edin., 3, The Crescent, Birmingham. *Trans.* 1.

1887† Mason, Arthur Henry, L.R.C.P.Lond., Oakwood, Walton-on-Thames.

1884 Massey, Hugh Holland, 2, North terrace, Camberwell, S.E.

1884 Masters, John Alfred, M.D.Durh., Westall House, Brook green, W.

1877 Maunsell, H. Widenham, A.M., M.D., 37, Stanhope gardens, Queen's gate, S.W.

1883 Maurice, Oliver Calley, 75, London street, Reading. *Council*, 1888-90.

1890 May, Chichester Gould, M.A., M.B. Cantab., 26, Walton street, Pont street, S.W.

Elected

.877 MAY, LEWIS JAMES, Bountis Thorne, Seven Sisters road, Finsbury park, N.

1884† MAYNARD, EDWARD CHARLES, L.R.C.P. Ed., 2. Cambridge gardens, Richmond hill.

1891† MAYNER, ALFRED EDGAR, M.D.Montreal, 27, Sutton street, Kingston, Jamaica.

1885† MELLER, CHARLES BOOTH, L.R.C.P. Ed., Cowbridge, Glamorganshire.

1886 MENNELL, ZEBULON, 1, Royal crescent, Notting hill, W.

1882 MEREDITH, WILLIAM APPLETON, M.B., C.M., Surgeon to the Samaritan Free Hospital for Women and Children; 21, Manchester Square, W. *Council*, 1886-8. *Vice-Pres.* 1891-93. *Trans.* 3.

1893† MICHIE, HARRY, M.B. Aber., 27, Regent street, Nottingham.

1875*†MILES, ABIJAH J., M.D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine, Cincinnati, Ohio, U.S.

1876† MILLMAN, THOMAS, M.D., 490, Huron street, Toronto, Ontario, Canada.

1880† MILLS, ROBERT JAMES, M.B., M.C., 35, Surrey street, Norwich.

1876 MILSON, RICHARD HENRY, M.D., 88, Finchley road, South Hampstead, N.W. *Council*, 1890.

1892† MILTON, HERBERT M. NELSON, Kasr-el-Aini Hospital, Cairo, Egypt.

1869*†MINNS, PEMBROKE R. J. B., M.D., Thetford, Norfolk.

1867* MITCHELL, ROBERT NATHAL, M.D., Chester House, Wickham road, Brockley, S.E.

1893† MONTBRUN, D. ANTONIO DE, L.R.C.P. Lond., Port of Spain, Trinidad, W.I.

1892† MONTBRUN, DOMINGO DE, M.D.Caracas, Port of Spain, Trinidad, W.I.

1877 MOON, FREDERICK, M.B., Bexley house, Greenwich, S.E.

1859† MOORHEAD, JOHN, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

Elected

1888† MORGAN, GEORGE JOHN, L.K.Q.C.P. & L.M., Dovaston House, Kinnerley, near Oswestry.

1888 MORISON, ALEXANDER, M.D. Ed., Dunnottar, 115, Green lanes, Stoke Newington, N.

1890 MORRIS, CHARLES ARTHUR, M.A., M.B., B.C.Cantab., F.R.C.S., 30, Ebury street, S.W.

1883 MORRIS, CLARKE KELLY, Gordon Lodge, Charlton road, Blackheath, S.E.

1893 MORRISON, JAMES, L.R.C.P. Lond., St. Bartholomew's Hospital, E.C.

1891 MORTLOCK, CHARLES, L.R.C.P.Lond., 83, Oxford terrace, W.

1886† MORTON, SHADFORTH, M.D. Durham, 24, Wellesley road, Croydon.

1879 MOULLIN, JAMES A. MANSELL, M.A., M.B., Assistant Physician to the Hospital for Women and Children, 69, Wimpole street, Cavendish square, W. *Trans.* 1.

1885 MURRAY, CHARLES STORMONT, L.R.C.S. and L.M. Ed., 85, Gloucester place, Portman square, W.

1893† MURRAY, ROBERT MILNE, M.B. Edin., 10, Hope street, Edinburgh.

O.F. MUSGRAVE, JOHNSON THOMAS, L.R.C.P. Ed., Irlam Villa, 39, Finchley road, N.W. *Council*, 1859-60. *Trans.* 1.

1888 MYDDELTON-GAVEY, EDWARD HERBERT, 94, Wimpole street, W.

1893† NAIRNE, JOHN STUART, F.R.C.S. Ed., 12, Royal crescent, Crosshill, Glasgow.

1887 NAPIER, A. D. LEITH, M.D. Aber., M.R.C.P. Lond., F.R.S. Edin., Physician to the Royal Maternity Charity; 67, Grosvenor street, W. *Trans.* 2.

1892† NASH, W. GIFFORD, F.R.C.S., 2, Harpur place, Bedford.

1859† NEAL, JAMES, M.D., Parterre, Sandown, Isle of Wight.

1882† NESHAM, THOMAS CARGILL, M.D., Lecturer on Midwifery in the University of Durham College of Medicine at Newcastle-on-Tyne; 12, Ellison place, Newcastle-on-Tyne. *Council*, 1889-91.

Elected

1859*†NEWMAN, WILLIAM, M.D., Surgeon to the Stamford and Rutland Infirmary; Barn Hill House, Stamford, Lincolnshire. *Council*, 1873-75. *Vice-Pres.* 1876-77. *Trans.* 5.

1889† NEWNHAM, WILLIAM HARRY CHRISTOPHER, M.A., M.B.Cantab., 1, Leicester place, Clifton, Bristol.

1893† NICHOL, FRANK EDWARD, M.A., M.B., B.C.Cantab., 11, Ethelbert Terrace, Margate.

1873† NICHOLSON, ARTHUR, M.B. Lond., 98, Montpellier road, Brighton.

1879† NICHOLSON, EMILIUS ROWLEY, M.D., 11, 19, Cornwallis gardens, Hastings.

1876 NIX, EDWARD JAMES, M.D., 11, Weymouth street, W. *Council*, 1889-90.

1882† NORMAN, JOHN EDWARD, Lismore House, Hebburn-on-Tyne.

1883† NUNN, PHILIP W. G., L.R.C.P. Lond., Maplestead, Christchurch road, Bournemouth.

1884† OAKES, ARTHUR, M.D., Lachsmeade, Staveley road, Eastbourne.

1880† OAKLEY, JOHN, Holly House, Wood's end, Halifax, Yorkshire.

1886 OGLE, ARTHUR WESLEY, L.R.C.P. Lond., 90, Cannon street, E.C.

O.F. OLDHAM, HENRY, M.D., F.R.C.P., Consulting Obstetric Physician to Guy's Hospital; 4, Cavendish place, Cavendish square, W. *Vice-Pres.* 1859. *Council*, 1860, 1865-66. *Treas.* 1861-62. *Pres.* 1863-64. *Trans.* 1. *Trustee.*

1888 OLIVER, FRANKLIN HEWITT, L.R.C.P. Lond., 2, Kingsland road, N.E.

1889 OLIVER, JAMES, M.D., F.R.S. Edin., F.L.S., Physician to the Hospital for Women, Soho square; 18, Gordon square, W.C.

1884 OPENSHAW, THOMAS HORROCKS, M.B., M.S., 16, Wimpole street, W.

Elected

1890 ORR, A. AYLMER, M.A., M.B.Oxon., 204, Earl's Court road, W.

1890† OSBURN, HAROLD BURGESS, L.R.C.P., Bagshot, Surrey.

1877† OSTERLOH, PAUL RUDOLPH, M.D. Leipzic, Physician for Diseases of Women, Diaconissen Hospital; 16, Sidonienstr., Dresden.

1892 OWEN, SAMUEL WALSHE, L.R.C.P.Lond., 10, Shepherd's Bush road, W.

1889* PAGE, HARRY MARMADUKE, F.R.C.S., 107, London wall, E.C.

1891† PAGE, HERBERT MARKANT, M.D.Brux., 16, Prospect hill, Redditch.

1883 PALMER, JOHN IRWIN, 47, Queen Anne street, Cavendish square, W.

1877* PARAMORE, RICHARD, M.D., 2, Gordon square, W.C.

1867*†PARKS, JOHN, Bank House, Manchester road, Bury, Lancashire.

1887 PARSONS, JOHN INGLIS, M.D.Durh., M.R.C.P., Physician to Out Patients, Chelsea Hospital for Women, 3, Queen street, Mayfair, W. *Trans.* 1.

1880 PARSONS, SIDNEY, 78, Kensington Park road, W.

1889 PARSONS, THOMAS EDWARD, Paddock House, Ridgeway, Wimbledon.

1865*†PATERSON, JAMES, M.D., Hayburn Bank, Partick, Glasgow.

1882* PEACEY, WILLIAM, M.D., 11, Breakspears road, Brockley, S.E.

1864 PEARSON, DAVID RITCHIE, M.D., 23, Upper Phillimore place, Kensington, W.

1871 PEDLER, GEORGE HENRY, 6, Trevor terrace, Rutland gate, S.W.

1880† PEDLEY, THOMAS FRANKLIN, M.D., Rangoon, India. *Trans.* 1.

1881† PERIGAL, ARTHUR, M.D., New Barnet, Herts. *Council*, 1892–93.

Elected

1871† PERRIGO, JAMES, M.D., 53, Union avenue, Montreal, Canada. *Hon. Loc. Sec.*

1879* PESIKAKA, HORMASJI DOSABHAI, 23, Hornby row, Bombay.

1883 PETTIFER, EDMUND HENRY, 32, Stoke Newington green, N.

1879 PHILLIPS, GEORGE RICHARD TURNER, 24, Palace court, Bayswater hill, W. *Council,* 1891.

1882 PHILLIPS, JOHN, M.A., M.D. Cantab., F.R.C.P., Assistant Obstetric Physician to King's College Hospital; 71, Grosvenor street, W. *Council,* 1887-9, 1893. *Board Exam. Midwives,* 1892-3. *Trans.* 7.

1891 PHILLIPS, W. E. PICTON, 38, Walsingham House, Piccadilly.

1878 PHILPOT, JOSEPH HENRY, M.D., 61, Chester square, S.W. *Council,* 1891.

1871* PHILPS, PHILIP GEORGE, 21, Russell road, Kensington, W.

1876 PICARD, P. KIRKPATRICK, M.D., 59, Abbey road, St. John's Wood, N.W.

1889† PINHORN, RICHARD, L.R.C.P. Lond., 5, Cambridge terrace, Dover.

1889† PLAYFAIR, DAVID THOMSON, M.D., C.M. Edin., Redwood House, Bromley, Kent.

1893 PLAYFAIR, HUGH JAMES MOON, M.D. Lond., 44, Cambridge terrace, W.

1864* PLAYFAIR, W. S., M.D., LL.D., F.R.C.P., Physician-Accoucheur to H.I. & R.H. the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, and Obstetric Physician to King's College Hospital; 31, George street, Hanover square, W. *Council,* 1867. 1883-5. *Hon. Librarian,* 1868-9. *Hon. Sec.* 1870-72. *Vice-Pres.* 1873-5. *Pres.* 1879-80. *Trans.* 15.

1880 POCOCK, FREDERICK ERNEST, M.D., The Limes, St. Mark's road, Notting hill, W.

1883 POCOCK, WALTER, 374, Brixton road, S.W.

1891 POLLOCK, WILLIAM RIVERS, M.B., B.C.Cantab., 56, Park street, Grosvenor square, W.

1883 POOK, WILLIAM JOHN, L.R.C.P., 2, Hemingford road, N.

Elected

1876 POPE, H. CAMPBELL, M.D., F.R.C.S., Broomsgrove Villa, 280, Goldhawk road, Shepherd's Bush, W.

1891 POPE, HENRY SHARLAND, M.B., B.C.Cantab., Royal Chest Hospital, City road, E.C.

1888 POPHAM, ROBERT BROOKS, L.R.C.P.Lond., 67, Bartholomew road, Camden road, N.W.

1882† PORTER, JOSEPH FRANCIS, M.D., Helmsley, Yorkshire.

1864 POTTER, JOHN BAPTISTE, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women at, the Westminster Hospital; 20, George street, Hanover square, W. *Council*, 1872-6, 1890-92. *Hon. Lib.* 1877-8. *Vice-Pres.* 1879-81. *Treas.* 1882-4, 1893. *Board Exam. Midwives*, 1883-4. *Pres.* 1885-6. *Trans.* 1.

1884† POWELL, JOHN JAMES, L.R.C.P. Lond., Norwood Lodge, Weybridge.

1885† PRAEGER, EMIL ARNOLD, Nanaimo, British Columbia.

1886 PRANGLEY, HENRY JOHN, L.R.C.P. Lond., Tudor House, 197, Anerley road, Anerley, S.E.

1880* PRICKETT, MARMADUKE, M.A.Cantab., M.D., Physician to the Samaritan Hospital; 12, Devonport street, Gloucester square, W. *Council*, 1892.

O.F.* PRIESTLEY, WILLIAM O., M.D., LL.D., F.R.C.P., Consulting Obstetric Physician to King's College Hospital; 17, Hertford street, Mayfair, W. *Council*, 1859-61, 1865-66. *Vice-Pres.* 1867-69. *Pres.* 1875-76. *Trans.* 6.

1876*†QUIRKE, JOSEPH, L.R.C.P. Ed., The Oaklands, Hunter's road, Handsworth, Birmingham.

1861 RASCH, ADOLPHUS A. F., M.D., Physician for Diseases of Women to the German Hospital; 7, South street, Finsbury square, E.C. *Council*, 1871-3. *Trans.* 6.

1878† RAWLINGS, JOHN ADAMS, M.R.C.P.Ed., Preswylfa, Swansea.

1870* RAY, EDWARD REYNOLDS, Dulwich, S.E.

1860* RAYNER, JOHN, M.D., Swaledale House, Highbury quadrant, N.

Elected

1879 READ, THOMAS LAURENCE, 11, Petersham terrace, Queen's gate, S.W. *Council*, 1892.

1874 REES, WILLIAM, Priory House, 129, Queen's crescent, Haverstock hill, N.W.

1879† REID, WILLIAM LOUDON, M.D., Professor of Midwifery and Diseases of Women and Children, Anderson's College; Physician to the Glasgow Maternity Hospital; 7, Royal crescent, Glasgow.

1889 REMFRY, LEONARD, M.A., M.D., B.C. Cantab., Obstetric Physician to the Great Northern Central Hospital, 60, Great Cumberland place, Hyde park, W.

1875*†REY, EUGENIO, M.D., 39, Via Cavour, Turin.

1890 REYNOLDS, JOHN, M.D.Brux., 11, Brixton hill, S.W.

1872† RICHARDSON, WILLIAM L., M.D., A.M., Professor of Obstetrics in Harvard University; Physician to the Boston Lying-in Hospital; 225, Commonwealth avenue, Boston, Massachusetts, U.S.

1889† RICHMOND, THOMAS, L.R.C.P. Ed., 2, West garden street, Glasgow.

1888† RIDING, WILLIAM STEER, M.D.Edin., Buckerell Lodge, Honiton.

1872† RIGDEN, GEORGE, Surgeon to the Canterbury Dispensary; 60, Burgate street, Canterbury. *Trans.* 1. *Hon. Loc. Sec.*

1871* RIGDEN, WALTER, M.D. St. And., 16, Thurloe place, S.W. *Council*, 1882-3. *Trans.* 1.

1892 ROBERTS, CHARLES HUBERT, F.R.C.S. Eng., 25, Welbeck street, Cavendish square, W.

O.F.*†ROBERTS, DAVID LLOYD, M.D., F.R.C.P., F.R.S. Edin., Obstetric Physician to the Manchester Royal Infirmary; and Lecturer on Clinical Midwifery and the Diseases of Women in Owens College; 11, St. John street, Deansgate, Manchester. *Council*, 1868-70, 1880-2. *Vice-Pres.* 1871-2. *Trans.* 5.

1867*†ROBERTS, DAVID W., M.D., 56, Manchester street, Manchester square, W.

Elected

1890† ROBERTS, HUGH JONES, Sea View, Penygroes, R.S.O., N. Wales.

1883 ROBERTS, JOHN CORYTON, L.R.C.P. Ed., 71, Peckham rye, S.E.

1874 ROBERTSON, WILLIAM BORWICK, M.D., St. Anne's, Thurlow park road, West Dulwich, S.E.

1890 ROBINSON, ARTHUR HENRY, M.D.Durh., The Infirmary, Bancroft road, N.E.

1892 ROBINSON, GEORGE H. DRUMMOND, M.D., B.S. Lond., 143, Wilberforce road, Finsbury park, N.

1887 ROBINSON, HUGH SHAPTER, L.R.C.P. Ed., Talfourd House, Camberwell, S.E.

1884† ROBINSON, LUKE, M.R.C.P. Lond., 533, Sutter street, San Francisco, California.

1892 ROBINSON, MARK, L.R.C.P. Lond., Geraldine Lodge, 75, East hill, Wandsworth, S.W.

1890† ROBSON, A. W. MAYO, F.R.C.S., Hillary place, Leeds.

1876† ROE, JOHN WITHINGTON, M.D., Ellesmere, Salop.

1874† ROOTS, WILLIAM HENRY, Canbury House, Kingston-on-Thames.

1874 ROPER, ARTHUR, Lewisham hill, Blackheath, S.E. *Council*, 1886-8.

1865*†ROPER, GEORGE, M.D., Consulting Physician to the Royal Maternity Charity; Oulton Lodge, Aylsham, Norfolk. *Council*, 1875-77, 1883-5. *Vice-Pres.* 1879-81, 1889, *Board Exam. Midwives*, 1880-1, 1883-5. *Trans.* 10.

1859 ROSE, HENRY COOPER, M.D., Penrose House, Hampstead, N.W. *Council*, 1875-77. *Trans.* 4.

1883† ROSSER, WALTER, M.D., 1, Wellesley villas, Croydon.

1884† ROSSITER, GEORGE FREDERICK, M.B., Surgeon to the Weston-super-Mare Hospital; Cairo Lodge, Weston-super-Mare.

1884† ROUGHTON, WALTER, L.R.C.P.Lond., Cranborne House, New Barnet.

Elected

1882 ROUTH, AMAND, M.D., B.S., Assistant Obstetric Physician to, and Teacher of Practical Obstetrics and Gynæcology at, Charing Cross Hospital; 14A, Manchester square, W. *Council*, 1886-8 *Board Exam. Midwives*, 1893. *Trans.* 2.

O.F.* ROUTH, CHARLES HENRY FELIX, M.D., Consulting Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61. *Vice-Pres.* 1874-6. *Trans.* 13.

1887*†ROWE, ARTHUR WALTON, M.D. Dur., 1, Cecil street, Margate.

1881† ROWORTH, ALFRED THOMAS, Grays, Essex.

1886 RUSHWORTH, FRANK, M.B. Lond., 1A, Goldhurst terrace, South Hampstead, N.W.

1888† RUSHWORTH, NORMAN, L.R.C.P. Lond., Beechfield, Walton-on-Thames.

1886† RUTHERFOORD, HENRY TROTTER, B.A., M.B. Cantab., Taunton. *Council*, 1892-93. *Trans.* 1.

1866† SABOIA, Baron V. de, M.D., Director of the School of Medicine, Rio de Janeiro; 39, Rua dos Andrados, Rio de Janeiro. *Trans.* 2.

1864† SALTER, JOHN H., D'Arcy House, Tolleshunt D'Arcy, Kelvedon, Essex.

1868* SAMS, JOHN SUTTON, St. Peter's Lodge, Eltham road, Lee, S.E. *Council*, 1892.

1886† SANDERSON, ROBERT, M.B. Oxon., 33, Montpellier road, Brighton.

1872 SANGSTER, CHARLES, 148, Lambeth road, S.E.

1870† SAUL, WILLIAM, M.D., Lyndthorpe, Boscombe, Bournemouth.

1891 SAUNDERS, FREDERICK WILLIAM, M.B., B.C.Cantab., 17, Barkston gardens, South Kensington, S.W.

1872† SAVAGE, THOMAS, M.D., Surgeon to the Birmingham and Midland Hospital for Women; 33, Newhall street, Birmingham. *Council*, 1878-80.

Elected

1877 SAVORY, CHARLES TOZER, M.D., 6, Douglas road, Canonbury, N. *Trans.* 1.

1890 SCHACHT, FRANK FREDERICK. B.A., M.D.Cantab., 168, Earl's Court road, S.W.

1870† SCOTT, JOHN, M.D., Cramond House, Sandwich.

1888 SCOTT, PATRICK CUMIN, B.A., M.B. Cantab., 38, Shooter's Hill road, Blackheath, S.E.

1866 SEQUEIRA, JAMES SCOTT, 68, Leman street, Goodman's fields, E., and Crescent House, Cassland crescent, Cassland road, South Hackney, E.

1882 SERJEANT, DAVID MAURICE, M.D., 1, The Terrace, Camberwell, S.E.

1875 SETON, DAVID ELPHINSTONE, M.D., 1, Emperor's gate, S.W. *Council,* 1884.

1860 SEWELL, CHARLES BRODIE, M.D., 21, Cavendish square, W., and 13, Fenchurch street, E.C. *Council,* 1880-2.

O.F.† SHARPIN, HENRY WILSON, F.R.C.S., Surgeon to the Bedford General Infirmary, Bedford. *Council,* 1871-3. *Trans.* 1. *Hon. Loc. Sec.*

1887 SHAW, JOHN, M.D. Lond., Obstetric Physician to the North West London Hospital; 34, Queen Anne street, Cavendish square, W. *Trans.* 2.

1891 SHAW-MACKENZIE, JOHN ALEXANDER, M.B.Lond., 24, Savile row, W.

1890 SHILLINGFORD, HENRY BARTLETT, Park House, Rye lane, Peckham, S.E.

1890 SILK, JOHN FREDERICK WILLIAM, M.D. Lond., 29, Weymouth street, Portland place, W.

1874† SINCLAIR, ALEXANDER DOULL, M.D., Consulting Physician to the Boston Lying-in Hospital; 35, Newbury street, Boston, Massachusetts, U.S.

1888† SINCLAIR, WILLIAM JAPP, M.D. Aber., Honorary Physician to the Southern Hospital for Women and Children and Maternity Hospital, Manchester; and Professor of Obstetrics and Gynæcology, Owens College, Manchester; 250, Oxford road, Manchester.

Elected

1879† SLIGHT, GEORGE, M.D., 37, Western street, King's road, Brighton.

1881† SLOAN, ARCHIBALD, M.B., 272, Bath street, Glasgow.

1876† SLOAN, SAMUEL, M.D., C.M., 5, Somerset place, Sauchiehall street West, Glasgow.

1890† SLOMAN, FREDERICK, 18, Montpellier road, Brighton.

1861 SLYMAN, WILLIAM DANIEL, 26, Caversham road, Kentish Town, N.W. *Council*, 1881.

1867* SMITH, HEYWOOD, M.D., 18, Harley street, Cavendish square, W. *Council*, 1872-5. *Board Exam. Midwives*, 1874-76. *Trans.* 6.

1888† SMITH, HOWARD LYON, L.R.C.P.Lond., Buckland House, Buckland Newton, near Dorchester.

1890 SMITH, HUGH, M.D.Lond., Englefield House, High street, Highgate, N.

1875 SMITH, RICHARD THOMAS, M.D., Physician to the Hospital for Women, Soho square; 53, Haverstock hill, N.W.

1886† SMITH, SAMUEL PARSONS, L.K.Q.C.P.I., Park Hyrst, Addiscombe road, Croydon.

1882† SMITH, STEPHEN MABERLY, L.R.C.P. Ed., Yarra street, Geelong, Melbourne. [Per Henry M. Smith, c/o The London and County Bank, Henrietta street, Covent garden, W.C.]

1879† SMITH, WM. HUGH MONTGOMERY, L.R.C.P. Ed., 24, London road, West Croydon, Surrey.

1868* SPAULL, BARNARD E., 1, Stanwick road, West Kensington, W.

1888 SPENCER, HERBERT R., M.D., B.S. Lond., Assistant Obstetric Physician to University College Hospital; 10, Mansfield street, Cavendish square, W. *Council*, 1890-92. *Trans.* 2.

1876† SPENCER, LIONEL DIXON, M.D., Brigade-Surgeon, I.M.S., Bengal Establishment [care of Messrs. Grindlay and Co., 55, Parliament street, S.W.].

1882 SPOONER, FREDERICK HENRY, M.D., Maitland Lodge, Clapton, N.E.

Elected

1876† SPURGIN, HERBERT BRANWHITE, 82, Abington street, Northampton.

1893 STACK, E. H. EDWARDS, M.B., B.C. Cantab., St. Bartholomew's Hospital, E.C.

1884† STEVENSON, EDMOND SINCLAIR, F.R.C.S. Ed., Strathallan House, Rondebosch, Cape of Good Hope. *Trans.* 1.

1877† STEPHENSON, WILLIAM, M.D., Professor of Midwifery, University of Aberdeen; 3, Rubislaw terrace, Aberdeen. *Council*, 1881-3. *Vice-Pres.*, 1887-89. *Trans.* 2.

1873† STEWART, JAMES, M.D., 1, Crescent place, Whitby, Yorkshire.

1875*†STEWART, WILLIAM, F.R.C.P. Ed., Dyrock Cottage, Prestwick, near Ayr, N.B.

1884† STIVEN, EDWARD W. F., M.D., The Manor Lodge, Harrow.

1884 STIVENS, BERTRAM H. LYNE, 11, Kensington gardens square, W.

1883 STOCKS, FREDERICK, 421, Wandsworth road, S.W.

1866* STRANGE, WILLIAM HEATH, M.D., 2, Belsize avenue, Belsize park, N.W. *Council*, 1882-4.

1884 SUNDERLAND, SEPTIMUS, M.D., 36, Bruton street, Berkeley square, W.

1886† SUTCLIFFE, ARTHUR EDWIN, Chorlton Lodge, Stretford road, Manchester.

1883* SUTHERLAND, HENRY, M.A., M.D. Oxon., M.R.C.P., 6, Richmond terrace, Whitehall, S.W.

1888 SUTTON, JOHN BLAND, F.R.C.S., 48, Queen Anne street, Cavendish square, W. *Trans.* 1.

1893 SWAN, RICHARD JOCELYN, Park House, 32, Camberwell new road, S.E.

1859*†SWAYNE, JOSEPH GRIFFITHS, M.D., Physician-Accoucheur to the Bristol General Hospital; Harewood House, 74, Pembroke road, Clifton, Bristol. *Council*, 1860-61, *Vice-Pres.* 1862-64. *Trans.* 9.

1892† SWAYNE, WALTER CARLESS, M.B. Lond., 3, Leicester villas, St. Paul's road, Clifton.

Elected

1888* SWORN, HENRY GEORGE, L.K.Q.C.P. & L.M., 16, Albion road, Holloway road, N.

1883 TAIT, EDWARD SABINE, M.D., 48, Highbury park, N. *Council*, 1892-93. *Trans.* 1.

1879 TAIT, EDWARD W., 48, Highbury park, N. *Council*, 1886-7.

1871† TAIT, LAWSON, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; 7, The Crescent, Birmingham. *Trans.* 15.

1880† TAKAKI, KANAHEIRO, F.R.C.S., 10, Nishi-Konyachō, Kiōbashika, Tokio, Japan. *Hon. Loc. Sec.*

1859 TAPSON, ALFRED JOSEPH, M.B. Lond., 36, Gloucester gardens, Westbourne terrace, W. *Council*, 1862-64. *Vice-Pres.* 1891.

1863 TAPSON, JOSEPH ALFRED, L.R.C.P. Lond., Holmwood, The Grove, Clapham common, S.W. *Trans.* 1.

1891 TARGETT, JAMES HENRY, M.B., B.S. Lond., F.R.C.S., 6, St. Thomas's street, S.E.

1892 TATE, WALTER WILLIAM HUNT, M.B. Lond., 57, Lambeth palace road, S.E.

1871 TAYLER, FRANCIS T., B.A. Lond., M.B., Claremont villa, 224, Lewisham high road, S.E.

1869† TAYLOR, JOHN, Earl's Colne, Halstead, Essex.

1890*†TAYLOR, JOHN WILLIAM, F.R.C.S., 59, Bath street, Birmingham. *Trans.* 1.

1892 TAYLOR, WILLIAM BRAMLEY, 145, Denmark hill, S.E.

1885† TAYLOR, WILLIAM CHARLES EVERLEY, M.R.C.P. Edin., 34, Queen street, Scarborough.

1890† THOMAS, BENJAMIN WILFRED, L.R.C.P. Lond., Welwyn.

1884 THOMAS, GEORGE H. W., 23, Oxford gardens, W.

1887† THOMAS, WILLIAM EDMUND, L.R.C.P. Ed., Bridgend, Glamorganshire.

1882† THOMAS, HUGH, The Grange, Coventry road, Birmingham.

1867*†THOMPSON, JOSEPH, L.R.C.P. Lond., 1, Oxford street, Nottingham. *Trans.* 1. *Hon. Loc. Sec.*

Elected

1878† THOMSON, DAVID, M.D., Park square, Luton, Bedfordshire.

1879 THORNTON, J. KNOWSLEY, M.B., C.M., Surgeon to the Samaritan Free Hospital for Women and Children, 22, Portman street, Portman square. *Council*, 1882-3. *Hon. Lib.* 1884-5. *Hon. Sec.* 1886. *Vice-Pres.* 1888, 1893. *Trans.* 6.

1873† TICEHURST, CHARLES SAGE, Petersfield, Hants.

1866 TILLEY, SAMUEL, 32, West Kensington gardens, W.

O.F. TILT, EDWARD JOHN, M.D., Consulting Physician-Accoucheur to the Farringdon General Dispensary; 27, Seymour street, Portman square, W. *Council*, 1867-68. *Vice-Pres.* 1869-70. *Treas.* 1871-2. *Pres.* 1873-4. *Trans.* 7.

1883† TINKER, FREDERICK HOWARD, F.R.C.P. Ed., Talbot House, Hyde, Cheshire.

1887† TINLEY, THOMAS, M.D. Durh., Hildegard House, Whitby.

1879† TIVY, WILLIAM JAMES, F.R.C.S. Ed., 8, Lansdown place, Clifton, Bristol.

1872† TOLOTSCHINOFF, N., M.D., Charkoff, Russia.

1884 TRAVERS, WILLIAM, M.D., 2, Phillimore gardens, W.

1873† TRESTRAIL, HENRY ERNEST, F.R.C.S. Ed., M.R.C.P. Ed., 36, Westbourne gardens, Glasgow, W. *Trans.* 1.

1893 TRETHOWAN, WILLIAM, M.B., C.M. Aber., 5, Callow street, South Kensington, S.W.

1886 TUCKETT, WALTER REGINALD, Hazeldene, Woodford, Essex.

1865* TURNER, JOHN SIDNEY, Stanton House, 81, Anerley road, Upper Norwood, S.E. *Council*, 1893.

1891 TURNER, PHILIP DYMOCK, M.D.Lond., 95, Cromwell road, S.W.

1881† TUTHILL, PHINEAS BARRETT, M.D., Station Hospital, Gibraltar.

1861 TWEED, JOHN JAMES, Junr., F.R.C.S., 14, Upper Brook street, W.

1890 TYRRELL, WALTER, L.R.C.P.Lond., 104, Cromwell road, S.W.

Elected

1893 UMNEY, WILLIAM FRANCIS, M.D. Lond., Eardley House, Lawrie park road, Sydenham, S.E.

1874 VENN, ALBERT JOHN, M.D., Physician for the Diseases of Women, West London Hospital; 122, Harley street, W.

1873 VERLEY, REGINALD LOUIS, F.R.C.P. Ed., 28B, Devonshire street, Portland place, W.

1892† VERRALL, THOMAS JENNER, L.R.C.P.Lond., 97, Montpellier road, Brighton.

1879† WADE, GEORGE HERBERT, Ivy Lodge, Chislehurst, Kent. *Council*, 1892-93.

1860† WALES, THOMAS GARNEYS, Downham Market, Norfolk.

1866† WALKER, THOMAS JAMES, M.D., Surgeon to the General Infirmary, Peterborough; 33, Westgate, Peterborough. *Council*, 1878-80. *Hon. Loc. Sec.*

1889 WALLACE, ABRAHAM, M.D. Edin., 64, Harley street, W.

1870 WALLACE, FREDERICK, Foulden Lodge, Upper Clapton, N.E. *Council*, 1880-2.

1872*† WALLACE, JOHN, M.D., Assistant-Physician to the Liverpool Lying-in Hospital; 1, Gambier terrace, Liverpool. *Council*, 1883-5.

1883 WALLACE, RICHARD UNTHANK, M.B., Cravenhurst, Craven park, Stamford hill, N.

1893† WALLS, WILLLAM KAY, M.B. Lond., St. Mary's Hospital, Manchester.

1879* WALTER, WILLIAM, M.A., M.D., Surgeon to St. Mary's Hospital, Manchester; 20, St. John street, Manchester.

1867* WALTERS, JAMES HOPKINS, Surgeon to the Royal Berkshire Hospital; 15, Friar street, Reading, Berks. *Council*, 1884-6. *Trans.* 1. *Hon. Loc. Sec.*

1873† WALTERS, JOHN, M.B., Church street, Reigate, Surrey.

1884† WATSON, PERCIVAL HUMBLE, L.R.C.P. Lond., 72, Jesmond road, Newcastle-on-Tyne.

1884† WAUGH, ALEXANDER, L.R.C.P. Lond., Midsomer-Norton, Bath.

Elected

O.F.† WEBB, HARRY SPEAKMAN, New place, Welwyn, Herts. *Council*, 1889-91. *Vice.-Pres.* 1892-93.

1886† WEBBER, WILLIAM W., L.R.C.P. Ed., Crewkerne.

1893† WEBSTER, THOMAS JAMES, Brynglâs, Merthyr Tydvil.

1884† WEDMORE, ERNEST, M.B. Cantab., Obstetric Physician to the Bristol Royal Infirmary; 11, Richmond Hill, Clifton.

1876† WEIR, ARCHIBALD, M.D., St. Mungho's, Great Malvern.

1887† WELLS, ALBERT PRIMROSE, M.A., L.R.C.P. & S., L.M., 7, St. George's road, Beckenham.

1876† WELLS, FRANK, M.D., Hawes street, Brookline, Massachusetts.

O.F. WELLS, SIR T. SPENCER, Bart., F.R.C.S., Surgeon in Ordinary to H.M.'s Household; Consulting Surgeon to the Samaritan Free Hospital for Women and Children; 3, Upper Grosvenor street, W. *Council*, 1859. *Vice-Pres.* 1868-70. *Trans.* 5. *Trustee.*

1886† WEST, CHARLES J., L.R.C.P. Lond., The Grove, Fulbeck, Grantham.

1888† WESTON, JOSEPH THEOPHILUS, L.K.Q.C.P. & L.M., Lashio, Upper Burmah, India [care of Thos. Cook and Son, Ludgate Circus, E.C.].

1886 WHARRY, ROBERT, M.D. Aber., 6, Gordon square, W.C.

1890 WHEATON, SAMUEL W., M.D.Lond., Physician to the Royal Hospital for Children and Women; 52, The Chase, Clapham common, S.W.

1860† WHEELER, DANIEL, Chelmsford.

1889† WHITCOMBE, CHARLES HENRY, F.R.C.S. Edin., Westerham, Kent.

1890 WHITE, CHARLES PERCIVAL, M.A., M.B., B.C.Cantab., 144, Sloane street, S.W.

1890 WHITE, EDWIN FRANCIS, F.R.C.S., Westlands, 280, Upper Richmond road, Putney, S.W.

1882 WHOLEY, THOMAS, M.B. Durh., Winchester House, 50, Old Broad street, E.C.

Elected

1887† WIGAN, CHARLES ARTHUR, M.B.Durh., Portishead, Somerset.

1877 WIGMORE, WILLIAM, 131, Inverness terrace, Hyde park, W.

1883† WILKINSON, THOMAS MARSHALL, L.R.C.P.Ed., 33, Avenue road, Grantham.

1879† WILLANS, WILLIAM BLUNDELL, F.R.C.P. Ed., Much Hadham, Herts.

1889† WILLIAMS, ARTHUR HENRY, M.A., M.B., B.C. Cantab., 54, London road, St. Leonard's-on-Sea.

1887† WILLIAMS, CHARLES ROBERT, M.B., C.M. Ed., 15, Ivanhoe terrace, Ashby-de-la-Zouch.

1872 WILLIAMS, JOHN, M.D., F.R.C.P., Physician-Accoucheur to H.R.H. Princess Beatrice, Princess Henry of Battenberg; Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital; 63, Brook street, Grosvenor square, W. *Council*, 1875-76, 1892. *Hon. Sec.* 1877-9. *Vice-Pres.* 1880-2. *Board Exam. Midwives*, 1881-2; *Chairman*, 1884-6. *Pres.* 1887-8. *Trans.* 12.

1890 WILLIAMS, REGINALD MUZIO, M.D.Lond., 95, St. Mark's road, N. Kensington, W.

1881 WILLIS, JULIAN, M.R.C.P. Ed., 64, Sutherland avenue, Maida vale, W.

1860† WILSON, ROBERT JAMES, F.R.C.P. Ed., 7, Warrior square, St. Leonard's-on-Sea, Sussex. *Hon. Loc. Sec. Vice-Pres.* 1878-80.

1892† WILSON, THOMAS, M.D., B.S.Lond., 4, Waterloo road S., Wolverhampton.

1891† WINDLE, BERTRAM C. A., M.A., M.D., B.Ch.Dub., Queen's College, Birmingham.

1886† WINTERBOTTOM, ARTHUR THOMAS, L.R.C.P. Ed., Lark hill, Swinton, Manchester.

1877 WINTLE, HENRY, M.B., Kingsdown, Church road, Forest hill, S.E.

1887† WITHERS, ROBERT, Lawrence, Otago, New Zealand.

Elected

1880† WOODWARD, G. P. M., M.D., 157, Liverpool street, Sydney, New South Wales.

1890 WORNUM, GEORGE PORTER, 6, College terrace, Belsize park, N.W.

1881† WORTHINGTON, GEORGE FINCH JENNINGS, M.K.Q.C.P., Thorncliffe, Poole road, Bournemouth.

1876† WORTS, EDWIN, 6, Trinity street, Colchester.

1887† WRIGHT, CHARLES JAMES, Surgeon to the Hospital for Women and Children, Leeds; Professor of Midwifery to the Yorkshire College; Lynton Villa, Virginia road, Leeds.

1888*† WYATT-SMITH, FRANK, M.B., B.C.Cantab., British Hospital, Buenos Ayres.

1889 WYNTER, ANDREW ELLIS, L.R.C.P. Lond., 30, Upper Berkeley street, Portman square, W.

1871 YARROW, GEORGE EUGENE, M.D., Oakley House, 317, City road, E.C. *Council*, 1881-3.

1882*† YOUNG, CHARLES GROVE, M.D., New Amsterdam, Berbice British Guiana.

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ADVERTISEMENT.

THE SOCIETY is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, nor for those contained in the abstracts of the discussions which have occurred at the meetings during the Session.

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R. W. SAVAGE,
Librarian.

OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1892.

JANUARY 6TH, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—40 Fellows and 7 Visitors.

Books were presented by Dr. Auvard, Dr. J. A. Irwin, Dr. B. S. Schultze, and the Medical Society of London.

Robert Colgate Holman, M.R.C.S. (Midhurst), was declared admitted as a Fellow of the Society.

The following gentlemen were elected Fellows of the Society:—Sydney Beauchamp, M.B., B.C.Cantab.; Matthew Mitchell Bird, M.D., B.S.Durh.; William Arthur Bond, M.A., M.D., B.S.Cantab.; William Haig Brodie, M.D., C.M.Edin.; John Morgan Evans, L.R.C.P.Lond. (Llandrindod Wells); William Gardner, M.B., C.M.Glas. (Melbourne); George Arthur Hawkins-Ambler, F.R.C.S.Ed.

(Clifton); Thomas Hyde Hills, L.R.C.P.Lond. (Cambridge); Ernest Kingscote, M.B., C.M.Edin. (Salisbury); Domingo Montbrun, M.D.Caracas, M.R.C.S.Eng. (Trinidad); Charles Hubert Roberts, L.R.C.P.Lond.; Thomas Jenner Verrall, L.R.C.P.Lond. (Brighton); and Thomas Wilson, M.D., B.S.Lond. (Wolverhampton).

The following gentlemen were proposed for election:—Arthur Edward Giles, M.B.Lond. (St. John's, S.E.); and Mark Robinson, L.R.C.P.Lond. (Wandsworth).

The President nominated the following gentlemen as Auditors of the accounts for 1891:—Dr. Boulton, Dr. M. Handfield-Jones, Dr. W. S. A. Griffith, Dr. Amand Routh, and Mr. Alban Doran.

PRIMARY SARCOMA OF BOTH OVARIES.

By J. A. Shaw-Mackenzie, M. B.

Dr. J. A. Shaw-Mackenzie exhibited a specimen of primary sarcoma of both ovaries. The pathological points of interest were a large cyst of clear fluid in connection with the left ovarian mass, the uterus and tubes free from malignant deposit, and no such deposits elsewhere. Ascites and double pleuritic effusion were present.

The specimens, weighing 5½ lbs., were taken post mortem from a married woman aged 28, admitted in a dying condition to the Chelsea Hospital for Women, under Dr. Gerald Harper. There had been amenorrhœa for ten months, and, as the abdomen enlarged and vomiting occurred, pregnancy was suspected by the woman and diagnosed by the practitioner.

Both masses were free, and could have been removed in an early stage.

ABSCESS OF OVARY.

By Heywood Smith, M.D.

Dr. Heywood Smith exhibited a specimen that he thought would prove of considerable interest. It was apparently an abscess of the left ovary, which he had removed from a lady in Warrington Lodge on November 18th. The case was as follows:—The patient was confined in India, March 27th, after a natural labour. On the third day she was taken with fever. Ten days afterwards a lump formed on the left of the abdomen, which subsided in a week. Two weeks later another swelling formed just above the left inguinal region. She arrived in England about the beginning of September, and was admitted into one of the hospitals for women. She was there for nine weeks, but nothing seems to have been made out there, except that she was suffering from some pelvic inflammation with pyrexia. At the end of nine weeks she was brought to Warrington Lodge, with the characteristic temperature of suppuration. A tumour the size of a large orange existed on the left of the uterus and intimately connected with it, not very hard, and somewhat moveable. Dr. H. Smith called in Dr. Cullingworth, who agreed with him as to the necessity of an operation, deeming the tumour to be a pyosalpinx. At the operation there were adhesions to the omentum, and several in the pelvis. The pedicle was thick and rather friable. The uterus lay deep down on the right; the right oviduct was thick and tortuous. A glass drainage-tube was inserted. The tumour was the size of a small fist. On section it seemed to consist of an abscess, many-celled, with thickened walls, which, how-

ever, were very thin in places, and gave way after the tumour was lifted out of the pelvis ; there was also a cyst at one end, the size of a Tangerine orange, which contained bloody fluid.

Dr. Cullingworth examined the tumour, and at his suggestion Dr. Heywood Smith asked that a committee might be appointed to examine and report on the specimen.

The day after the operation the fluid coming from the drainage-tube began to be offensive. The day after, the patient on awaking felt something give way, after which discharge distinctly fæcal ; flatus also passed by the tube. Three days after the operation an enema was given, and the water came up through the drainage-tube. The patient, however, gradually gained strength, though a fæcal fistula remained, which, however, was closing slowly.

Dr. Herman asked if the fæcal fistula could have been due to the pressure of the end of the drainage-tube on the bowel. He had seen several cases apparently so caused, both after operations and after the opening of a puerperal abscess, pointing in the middle line of the abdomen just below the umbilicus. They all healed when the tube was removed.

Dr. Cullingworth said he had shown the specimen to Mr. Shattock, the Curator of St. Thomas's Hospital Museum, and that neither Mr. Shattock nor he remembered to have seen anything quite like it before. Mr. Shattock said it was more suggestive of actinomycosis than any other condition with which he was acquainted, and was of opinion that the responsibility of examining and reporting upon it would be more fitly undertaken by a committee than by an individual. He (Dr. Cullingworth) hoped the President would be good enough to refer the specimen to a committee of pathological experts.

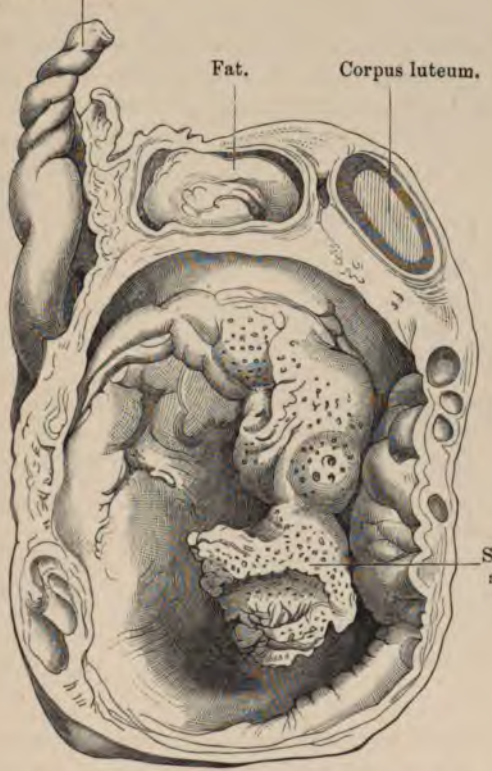
In answer to Dr. Herman, Dr. Heywood Smith said he did not think the glass drainage-tube had anything to do with the causation of a fæcal fistula, as it took place too soon after the operation ; he considered it was caused by the tearing down of some adhesion which existed between the abscess and the bowel.

A committee, consisting of Mr. Doran, Mr. Sutton, and Dr. Heywood Smith, was appointed to report on this specimen.

AN OVARIAN DERMOID.

By J. Bland Sutton.

The dermoid which forms the subject of this communication was removed by Mr. Henry Morris from a single



An ovarian dermoid. The cyst contained hair, but it had become bald. A large sebaceous adenoma projected into the cavity, and a large corpus luteum was present in the wall.

lady, between thirty and forty years of age. The uterus contained a large myoma which blocked up the pelvic

cavity; the dermoid lay in the left iliac fossa, adherent to a coil of ileum. The pedicle was tightly twisted, and the tumour was engorged with blood.

The dermoid, which is represented two thirds the natural size in the accompanying drawing, has thick walls containing secondary cysts, several of which are occupied by fat of the consistence of cacao butter. There is also a large corpus luteum. The main cavity of the dermoid contained sebaceous material, intermixed with a quantity of short hairs, light brown in colour. When the loose material was washed away no hairs could be seen growing from the cyst wall; it is an example of an ovarian dermoid becoming bald with age. Hanging in the cyst by a thick pedicle, after the fashion of a polypus, is a soft, skin-covered tumour, which appears minutely dotted when viewed with the naked eye. Sections from this part, when examined under the microscope, exhibit little else than clusters of the largest sebaceous glands I have ever seen in the human subject; indeed, this polypoid mass may be appropriately described as a sebaceous adenoma.

Not the least interesting point in the tumour is the presence of a large corpus luteum, which, to the naked eye and the microscope, was absolutely indistinguishable from the so-called corpus luteum of pregnancy. I have on several occasions seen similar large corpora lutea in ovaries removed from women between thirty and forty-five years of age for the purpose of anticipating the menopause in cases of uterine myomata. The patients had never been pregnant.

OVARIAN DERMOID; INFILTRATION OF BROAD LIGAMENT WITH FAT.

By J. Bland Sutton.

As is well known, the mesosalpinx is normally free of fat. Recently Mr. Malcolm was good enough to place in my hands an ovarian dermoid the size of a melon, which was removed by Mr. K. Thornton. The peculiarity of the tumour consisted in the circumstance that the mesosalpinx and adjacent parts of the broad ligament were infiltrated with rich granular fat.

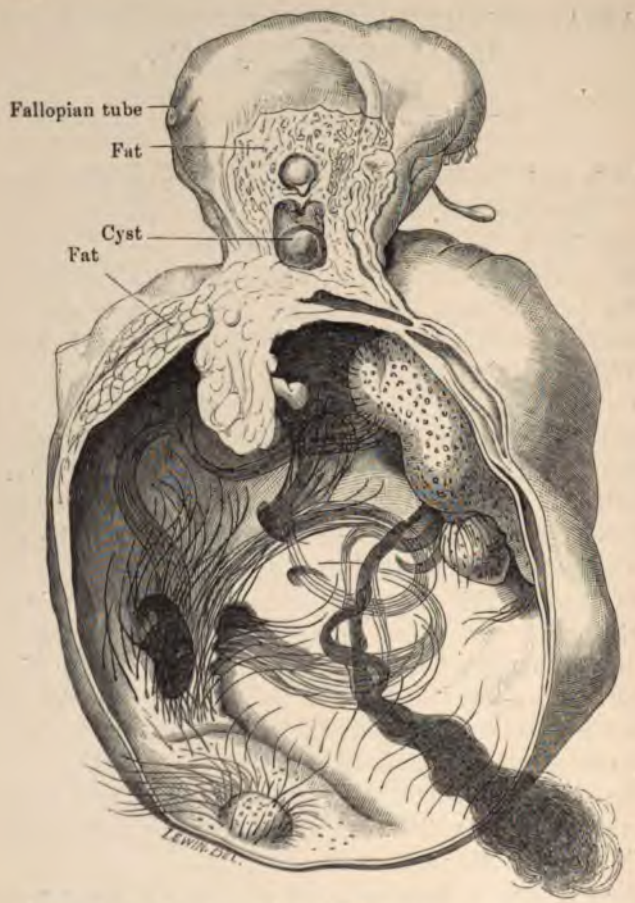
Ovarian dermoids frequently abound in fat, even when growing in very lean subjects. On dividing this tumour I found, in those parts adjacent to the mesosalpinx, a quantity of soft fat collected in cells, which, on section, resembled honey in the honeycomb, except that the cells were elliptical instead of being hexagonal.

On tracing this fatty region of the tumour in its relation with the broad ligament it was clear that the capsule of the dermoid had ruptured, and the tissues of the tumour, especially the fat, had burrowed along the lines of least resistance, and made their way between the layers of the mesosalpinx and surrounded the tube. Embedded in the fat were some fat-containing cysts, and a solid spherical body which, on microscopical examination, exhibited glandular structure.

The dermoid is interesting as it throws light on a specimen exhibited to the Pathological Society by Mr. Doran,* in which the broad ligament was infiltrated with fat. In that case the ovaries were occupied by dermoids containing much greasy material. In the brief description of the specimens no explanation is offered as to the pro-

* 'Trans. Path. Soc.,' vol. xli, p. 202.

bable source of the fat. As far as my observations extend the presence of fat in the mesosalpinx is very exceptional.



Infiltration of the mesosalpinx with fat, secondary to rupture of the capsule of an ovarian dermoid.

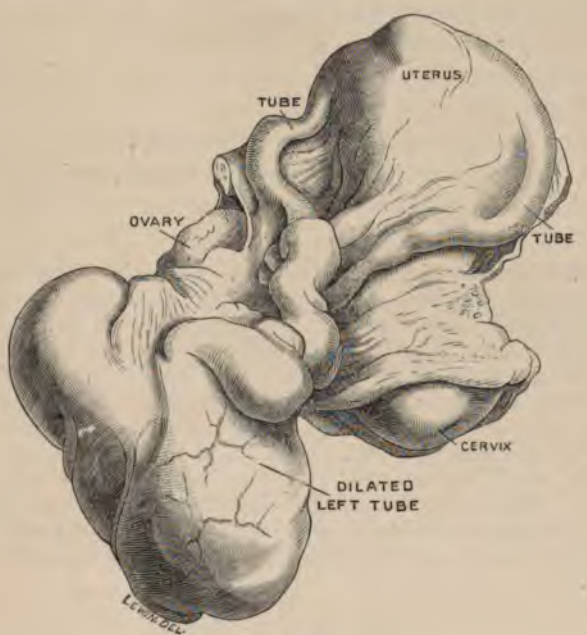
Parono* described a *caso di lipoma all' ovaia ed ovidotto di destra,* but I have not been able to consult the original memoir.

* 'Ann. di Ostet.,' Milano, 1891, xiii, 103—105, pl. i.

A HYDROSALPINX UNDERGOING SPONTANEOUS CURE.

By J. Bland Sutton.

The parts represented in the figure are the uterus and remnants of the appendages removed post mortem from a lady, forty-five years of age, who died suddenly in a nursing home.



Hydrosalpinx in a late stage.

She had been under the care of an eminent obstetric physician for pelvic trouble, and intense pain in the right side of the head. No active treatment was adopted.

Death was due to a gumma in the right temporo-sphenoidal lobe of the brain.

The body of the uterus was natural, but the left Fallopian tube was dilated into a tortuous cyst with extremely thin transparent walls. The dilated tube contained fluid of a pale straw colour. The right tube is simply an impervious cord, and the corresponding ovary was not detected even after a most careful search.

I have elsewhere expressed the opinion that under favourable conditions an obstructed and dilated tube may undergo spontaneous cure. The walls of the tubes become excessively thin, until at last they rupture ; and as the fluid from an old hydrosalpinx is not infective, it is absorbed by the peritoneum, and the shrunk sac atrophies. The atrophied tube is seen on the left side ; whilst with the hydrosalpinx on the right side rupture appeared to be imminent.

Such a mode of spontaneous cure appears to be rare ; thus the specimen is the more instructive, and is valuable as additional evidence in support of my contention.

Dr. HERMAN said that Mr. Bland Sutton's statement, that with uterine fibroids a corpus luteum as big as that of pregnancy was sometimes seen, was just now opportune, for Dr. R. J. Lee, in a letter recently published in the 'Lancet,' had said that the fact of pregnancy could be stated with certainty from the character of the corpus luteum. He (Dr. Herman) had seen, in an ovary removed from a case of uterine fibroid, a corpus luteum, an inch in diameter. Dr. Popow, in a paper published in vol. xxiv of the 'Transactions,' had described a corpus luteum like that of pregnancy, but not associated with it. These observations showed that size at least was not a criterion ; and if Dr. Lee knew of any other criteria, he had not mentioned what they were.

RUPTURED UTERUS.

By R. Boxall, M.D.

Dr. Boxall exhibited a uterus which had been ruptured during labour. There were two superficial tears through the peritoneal surface of the anterior wall near the fundus, and several incomplete lacerations through the mucous membrane in the lower segment of the uterus, all mainly longitudinal in direction.

Report of Committee, nominated December 2nd, 1891, *on Dr. Herman's Specimen of Amorphous Acardiac Twin* ('*Transactions,*' vol. xxxiii, p. 493).

Your committee have met this day, and, after examining the specimen named above, have drawn up and signed the following report :—This specimen consists of an oval elastic body, 6 centimetres long, 4·25 by 2·5 cm. broad, after immersion for some time in alcohol.

Its surface consists entirely of skin. A circumscribed area, about 2 cm. in diameter, is covered with dark brown hair, some of the hairs being 3 cm. long. Below this area, which appears to represent the scalp, is a small fleshy wattle, under 1 cm. long, closely resembling a tongue. The scalp and tongue-like body are separated by a deep depression. Under the tongue-like body is a tuberous projection, bearing short, dark brown hair. The smoother general surface of the body for 1·5 cm. below it bears yet shorter hair. Elsewhere no hair is to be found.

Close below the scalp the membranes are attached to the body of the monster. There is no distinct umbilical

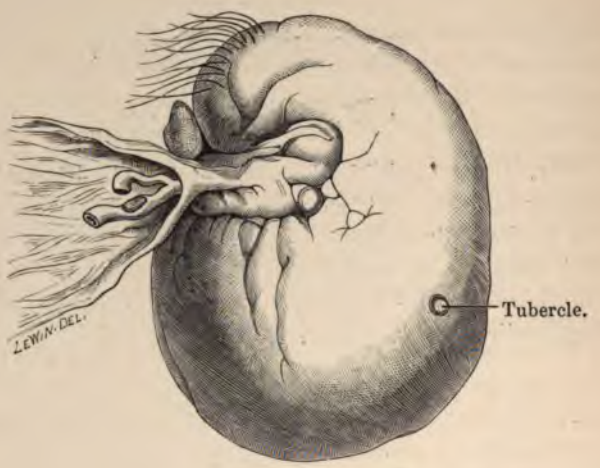


FIG. 1.—Specimen as seen from outside, showing hairy scalp and tongue. The small cutaneous tubercle lies low down near the right border.

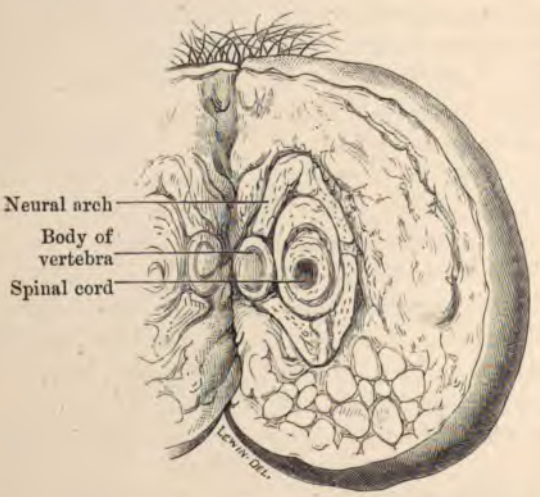


FIG. 2.—Specimen seen in section.

cord, but two large vessels joined together enter the mass. 2·5 cm. below the attachment of the membranes is a minute tubercle sunk in a recess.

The interior consists chiefly of œdematous connective tissue with fat, but no cystic cavities. Two centimetres below the level of the area of attachment of the membranes lies a mass of bone and cartilage, divided by section, and bearing the characters of a cervical vertebra. A thick cord, apparently the spinal cord, runs through the vertebra, and terminates, after a course of over 2 cm. through the œdematous connective tissue of the monster, in the tubercle on the surface.

There is no trace of intestine, nor of any solid organ, nor any blood-vessel visible to the naked eye.

The monster is an Acardiacus Amorphus, distinctly approaching to the Acormus type.

G. E. Herman.
W. S. A. Griffith.
Alban Doran.
J. Bland Sutton.

ON THE RELATION BETWEEN BACKWARD DISPLACEMENTS OF THE UTERUS AND PROLONGED HÆMORRHAGE AFTER DELIVERY AND ABORTION.

By G. Ernest Herman, M.B., F.R.C.P.,
OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

(Received March 20th, 1891.)

(*Abstract.*)

This paper is based on an analysis of 3641 consecutive out-patients at the London Hospital.

The author shows by figures—

That backward displacements of the uterus are more common in parous women than in those who have not had children.

That they are more common in those seeking advice soon after delivery or abortion than in those not applying for treatment until long after childbirth or abortion.

That they are more frequent among those in whom delivery or abortion has been followed by prolonged hæmorrhage than in those in whom it has not.

That prolonged hæmorrhage after delivery or abortion is more frequent in cases of backward displacement of the uterus than in cases without such displacements.

Therefore that there is a relation between backward displacement of the uterus and prolonged hæmorrhage after delivery and abortion.

It is shown that these statements apply both to hæmorrhage after delivery and to hæmorrhage after abortion.

It has been noticed that in cases in which hæmorrhage persists unusually long after delivery or abortion, backward displacement of the uterus is often found. It has been said that this is because the displacement causes the hæmorrhage. It has also been said that the hæmorrhage, by weakening the patient, causes the displacement. R. Barnes ('Diseases of Women,' 1st edition, p. 695) adopts and unites both views. He says the "*secondary or acquired form of retroflexion* most commonly arises after childbirth or abortion. Labours attended by exhausting conditions, as hæmorrhage, dispose especially to this displacement. . . . Retroflexion, in its turn, keeps up secondary puerperal hæmorrhage, and thus each evil aggravates the other." It is scarcely necessary to quote from text-books to show that this teaching has found followers.

But, so far as I am aware, no one has yet demonstrated that retroflexion of the uterus is found more frequently in women whose delivery or abortion has been followed by much hæmorrhage, than in those whose hæmorrhage has been of brief duration. In this communication I propose to test by facts the opinion referred to above.

It is impossible, from questioning patients as to their histories, to get at any accurate idea of the *amount* of blood lost during and after labour or abortion. The only thing that can be correctly ascertained is the length of time that the hæmorrhage lasted; and as, by the theory, it is *secondary* hæmorrhage which the displacement causes, the duration of the hæmorrhage is the important point.

In the following investigation by "*prolonged hæmorrhage*" is meant hæmorrhage lasting longer than a fortnight after delivery, or longer than a week after abortion.

The tables which follow are compiled from notes taken by myself of 3641 consecutive London Hospital out-patients.

The out-patient department appears to me the most suitable field for investigating this subject. To reach a correct conclusion as to the relation between hæmorrhage and displacement we ought to take *all* cases. Now the cases admitted into the hospital are mostly selected on

account of their gravity. The cases on which my conclusions are based are taken without any selection whatever.

How may we ascertain the true relationship between backward displacement of the uterus and hæmorrhage?

It might be proposed to eliminate from the cases of hæmorrhage all those in which the cause could be ascertained with something like certainty—such cases, for instance, as those due to retained secundines; and then to inquire whether in the residuum of cases of unexplained causation there was a small or large number of cases of backward displacement. But it appears to me that this mode of investigation would show results too much influenced by the preconceived opinions of the investigator to be quite trustworthy. If he found very few cases in which he could find no cause but displacement, it might be objected that in cases in which the hæmorrhage was really due to the displacement he had wrongly assigned it to other causes. If there were many cases in which nothing but displacement was discovered to account for it, it might be said that more exhaustive investigation would have revealed other causes. Besides which, to assume that, in a case of hæmorrhage with displacement, the bleeding is either due or not due to the displacement is to beg the question at issue. In the most simple and evident of all causes, namely, retention of secundines, it might be asserted that the retention is the effect of displacement. Therefore it seems to me that no convincing result could follow an investigation conducted on these lines.

The best of all tests of the dependence of hæmorrhage on displacement of the uterus would be the *effect of treatment.* If it were found that, as a general rule, in cases of backward displacement of the uterus with hæmorrhage, other remedies, without replacement of the uterus, did not stop the hæmorrhage, but when the uterus was supported did stop it; or that support of the uterus, without other remedies, was usually followed by speedy cessation of hæmorrhage; these facts would go far to-

wards demonstrating the dependence of the hæmorrhage on the displacement. But hæmorrhage is so serious a symptom, that humanity forbids us to withhold any treatment that we know to be influential in stopping it, in order that we may observe the uncomplicated action of something the effect of which is doubtful; not to mention the possibility that such an investigation would often be rendered incomplete because unsuccessful experimental treatment might lead the patient not to wait for the completion of the experiment, but to go somewhere else for better treatment. Hence I cannot refer to cases under my own care as tests of the effect of treatment, for in nearly all of them both ergot was given, and the uterus, if displaced, was supported.

There remains the method of comparing the relative frequency of prolonged hæmorrhage after labour or abortion in cases with displacement and without displacement; and, putting the question in another form, the relative frequency of backward displacements of the uterus in cases of prolonged hæmorrhage and in cases without prolonged hæmorrhage. If it be the fact that backward displacement of the uterus has any effect in prolonging hæmorrhage after labour or abortion, then we ought to find such hæmorrhage more frequent in cases with backward displacement than in those without it; and we also ought to find backward displacement more often in cases in which hæmorrhage after labour or abortion has been prolonged than in those in which it has not lasted longer than usual.

1. Is prolonged hæmorrhage after labour or abortion more frequent in cases with backward displacement of the uterus than in cases without it?

As material for answering this inquiry I have only taken cases in which delivery or abortion had taken place within three months. Had more remote events been taken into account, the fallacy would have been introduced that the displacement might not have been acquired till some time after the labour or abortion, and was not present during the period of hæmorrhage; or that a dis-

placement might have been present during recovery from the labour or abortion, and the uterus have afterwards regained its right position.

I find that out of 3641 out-patients, 411 had been delivered or aborted within three months. In 78 of these the uterus was displaced backwards, leaving 333 in which displacement was not present. Table I shows the number and the percentage of cases in which prolonged hæmorrhage was present in the two sets of cases. It shows an excess of 13·6 per cent. of cases of hæmorrhage among the patients with displacements.

TABLE I.

	No. of cases delivered or aborted within 3 months.	No. of cases with prolonged hæmorrhage.	Percentage of cases with prolonged hæmorrhage.
Cases with backward displacement .	78	57	73
Cases without backward displacement .	333	198	59·4
	Difference . .		13·6

I conclude, therefore, *that prolonged hæmorrhage after labour or abortion is more frequent in cases of backward displacement of the uterus than in those without this displacement.*

2. Is backward displacement of the uterus more frequent in cases of prolonged hæmorrhage after labour or abortion than in cases in which such hæmorrhage has not been prolonged?

Table II gives the figures that I am able to supply in answer to this question. It shows that backward displacements of the uterus are more frequent among women who have had children than in the general average of patients; that they are more frequent in those patients seeking advice during the three months following delivery or abortion than in those not applying for treatment until

after the lapse of a longer period (a fact from which it may be inferred that a uterus which soon after a labour or abortion was displaced backwards may afterwards regain its normal position without special treatment), and that *backward displacements are more frequent among those in whom labour or abortion is followed by prolonged hæmorrhage than in those in which it is not.*

TABLE II.—*Showing proportion of backward displacements among patients generally, among parous women, among those who had recently had a child or abortion, and among those with prolonged hæmorrhage after delivery or abortion.*

	No. of cases.	No. with backward displacements.	Percentage of backward displacements.
Patients generally	3641	394	10·8
Parous women	2352	308	13·1
Patients who had been delivered or had aborted within 3 months . .	411	78	19
Patients with prolonged hæmorrhage after delivery or abortion . .	255	57	22·3

Taking these two tables together, they seem to me to show *that there is a relation between backward displacement of the uterus and prolonged hæmorrhage after delivery or abortion.*

If we assume that the displacement is the cause of the hæmorrhage, and endeavour to measure its influence by taking the frequency of hæmorrhage among those without displacement as representing the frequency of hæmorrhage from causes independent of the displacement, we have, among the patients with displacements, 82 per cent. of hæmorrhage from other causes, 18 per cent. due to the displacement. But in many cases probably several causes of hæmorrhage exist together.

Is prolonged hæmorrhage more common after labour

or abortion? Table III shows that, according to the definition I have adopted, it is more common after abortion. It may be thought, perhaps, that to take a week after abortion as the time after which continuous hæmorrhage is pathological is to fix too early a date. But, according to my experience of cases in which the uterus has been thoroughly cleared out, it ceases within this time. Still, the difference in the duration of hæmorrhage after labour and abortion respectively taken in this paper as pathological may account for the excess of hæmorrhage after abortion here shown. But it does not account for the difference between the cases with and without backward displacement.

TABLE III.—*Showing the frequency of prolonged hæmorrhage after labour and abortion respectively.*

	Total.	Cases of hæmorrhage.	Percentage of hæmorrhage.
Childbirth	244	120	49
Abortion	167	135	80·8

Is the association of backward displacement of uterus with prolonged hæmorrhage especially marked after labour or after abortion? Tables IV and V show such information as my case-books give on this question. They show that the association is both with hæmorrhage after labour and with hæmorrhage after abortion.

TABLE IV.—*Showing the frequency of prolonged hæmorrhage after labour and abortion respectively in cases without backward displacement of uterus.*

	Total.	Cases of hæmorrhage.	Percentage of hæmorrhage.
Childbirth	198	90	45·4
Abortion	135	108	80

TABLE V.—*Showing the frequency of prolonged hæmorrhage after labour and abortion respectively in cases with backward displacement of uterus.*

	Total.	Cases of hæmorrhage.	Percentage of hæmorrhage.
Childbirth	46	30	65·1
Abortion	32	27	84·4

Taking it as demonstrated that there is a close relationship between the displacement and the hæmorrhage, the question arises, which is the cause and which the effect? I have no data from which to give a satisfactory answer to this question; therefore I will not discuss the question further than by making one remark. It appears to me that the association of the displacement with hæmorrhage both after *labour* and after abortion—indeed, in the cases with displacement the excess of cases of hæmorrhage after labour is greater than the excess of cases of hæmorrhage after abortion—is against the view that the hæmorrhage is simply and solely of mechanical production. The uterus is larger after delivery than after abortion, and the larger it is the less likely is it to get into a small Douglas's pouch with tight margins. My opinion is that a view somewhat like Barnes's is probably correct—that exhaustion from hæmorrhage favours the occurrence of displacement; which then, in a few cases, leads to interference with the return of blood from the uterus, and so to continuance of the hæmorrhage.

TWENTY CASES OF FIBROMA AND OTHER MORBID CONDITIONS OF THE UTERUS TREATED BY APOSTOLI'S METHOD.

By J. Inglis Parsons, M.D.

(Received April 25th, 1891.)

This contribution, having already appeared in the 'Lancet,' vol. i, 1892, p. 467, is not published here ("Laws and Regulations," Chapter xvi, Section 10). The discussion which followed the reading of the paper is published in the report of the January meeting of the Society in the 'Lancet,' vol. i, 1892, pp. 196–7.

ANNUAL MEETING.

FEBRUARY 3RD, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—52 Fellows and 3 Visitors.

The President declared the ballot open for one hour, and appointed Dr. John Phillips and Mr. J. H. Targett as Scrutineers.

The following gentlemen were admitted Fellows of the Society:—Thomas Jenner Verrall, L.R.C.P.Lond. (Brighton); Matthew Mitchell Bird, M.D., B.S. (Durham); J. H. Targett, M.B., B.S.Lond., F.R.C.S.; William Haig Brodie, M.D., C.M.Edin.; A. Maitland Gledden, L.R.C.P. Lond.; C. Hubert Roberts, L.R.C.P.Lond.; William Arthur Bond, M.A., M.D., B.S.Cantab.; Henry Sharland Pope, M.B., B.C.Cantab.

The following gentlemen were elected Fellows:—Arthur Edward Giles, M.B.Lond. (St. John's, S.E.); Mark Robinson, M.R.C.S., L.R.C.P.Lond. (Wandsworth).

The following were proposed for election:—William Evelyn St. Lawrence Finny (Kingston Hill, Surrey), M.B., M.C.Dubl.; Walter Carless Swayne, M.B.Lond., M.R.C.S. (Clifton); Augustus Kinsey-Morgan, M.R.C.S., L.S.A. (Bournemouth); George D. Robinson, M.D.Lond., B.S.; and John William Campbell, M.B.Cantab. B.Ch., B.A.

FATAL RUPTURE OF AN OVARIAN CYST IN AN INFANT.

By Alban Doran, for George B. Beale, M.D.

The specimen consisted of the uterus and appendages from an infant aged six weeks. The clinical history of the case, with a drawing, is given in the 'British Medical Journal' vol. ii, 1891, p. 1255. The specimen now belongs to the museum of the Royal College of Surgeons.

DOUBLE PYOSALPINX.

By A. C. Butler-Smythe.

Mr. Butler-Smythe showed a rare specimen of double pyosalpinx which he had successfully removed from a young married lady in December, 1891. He pointed out the fact that though the tubes had been enormously distended and universally adherent, no discomfort had been complained of till October last, when the patient discovered a swelling in her abdomen. At the same time it was highly probable, judging from the history of the case, that the tubes had been in a diseased condition for years.

Mr. Bland Sutton stated that he had examined the tubes exhibited by Mr. Butler-Smythe, and found them lined internally with granulation-tissue. All traces of epithelium and mucous membrane had disappeared. Large dilated tubes of this character differed in many points from the common form of pyosalpinx secondary to septic endometritis and gonorrhœa. He had only seen two other examples similar to the specimens

exhibited, and until we knew more about their pathology they should stand in a separate class. A feature worth mentioning in regard to such tubes is that in removing them it is necessary to enucleate each tube from the broad ligament.

Mr. Doran asked if the uterus was distinctly seen in Mr. Butler-Smythe's specimen. The large tube resembled two specimens in the museum of the Royal College of Surgeons (Pathol. Series, Nos. 4571–2) once exhibited by Mr. Doran himself at the Pathological Society (vol. xxxi, 1880, p. 192), supposed to consist of two greatly enlarged Fallopian tubes. Mr. Bland Sutton, in his 'Surgical Diseases of the Ovaries' gave reasons for believing that these tubes, and similar specimens described elsewhere, were really instances of hydrometra or pyometra in bicornute uteri. The precise explanation of so interesting a condition is impossible, unless the operator can satisfy us that he could find no true uterus either during operation, or in case of death at the necropsy.

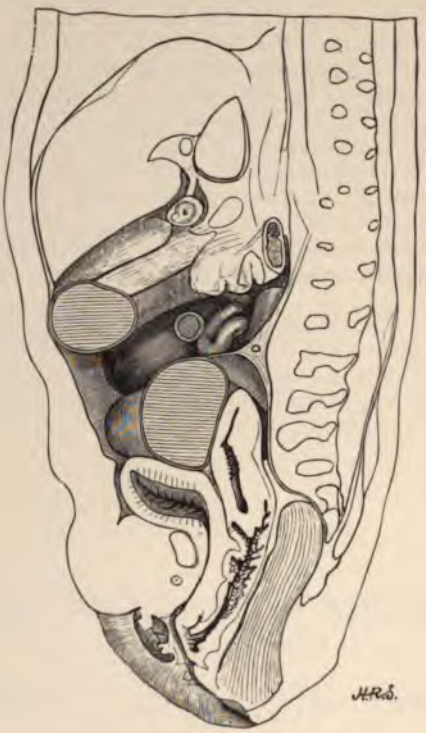
In reply to Mr. Doran's observation Mr. Sutton remarked that in Sir Spencer Wells' remarkable specimens the legume-shaped cysts were not only distended, but the muscular walls were greatly hypertrophied. In distended tubes the muscle tissue yields and atrophies.

RETROFLEXION OF THE UTERUS IN A NEW-BORN CHILD.

By Herbert R. Spencer, M.D., B.S.

The specimen and drawing show a sagittal section (slightly to the left of the middle line) of the frozen body of a stillborn child, weighing about 6½ lbs. On opening the abdomen I found an unusually long large intestine, and on examining the uterus I found it retroflexed; accordingly, the abdomen was stitched up without disturbance of any of the viscera, the body frozen, and a section made by Mr. Lawrence, the curator of University College Museum. The drawing I completed from a tracing taken immediately after the section was made. Mucus was removed from the vagina and uterus, and a thin layer

of tissue dissected off the wall of the rectum, and the small intestine was cut away after the specimen had been some days in spirit.



One-half natural size.

The uterus is seen to be retroflexed, this position being evidently due to the large descending colon which lies between the uterus and the bladder, as it comes over from the left side of the abdomen to pass down on the right side of the pelvis into the rectum. Moored as it is to the back of the abdomen by its mesentery (7 mm. long), this piece of colon would increase the amount of flexion if the gut became more distended or during contraction assumed a rounder form.

The colon is very long and convoluted, having altogether

eight acute flexures; the portion contained in the left half of the body measured 15 inches in length.

The anterior lip of the cervix is 1 mm. below the level of the top of the symphysis pubis; the fundus is 40 mm. above that level. The posterior wall of the body of the uterus is 4 mm. from the sacral promontory.

The external os is in the middle of the pelvis; the cervical canal is retroverted at an angle of 25° to the axis of the pelvic brim; the canal of the body is retroflexed at an angle of 40° to the cervical canal.

The cervical canal is 25 mm. long.
,, corporeal ,, 10 ,,
,, thickness of the fundus of the uterus is 5·5 mm.
,, ,, ,, anterior wall of body at internal os is 3 mm.
,, ,, ,, posterior wall of body at internal os is 9 mm.
,, ,, ,, anterior wall of cervix at the middle is 4 mm.
,, ,, ,, posterior wall of cervix at the middle is 7·5 mm.

It will be noticed that the posterior wall at the seat of the flexion is three times as thick as the anterior.

This is the only example of retroflexed uterus I have met with in over one hundred necropsies in female still-born children. Langerhans ('Archiv für Gynäkologie,' Bd. xiii, S. 305), in about forty frozen sections of new-born females, never met with this condition; neither did Credé, after observations extending over a long period ('Archiv für Gynäkologie,' 1870). Carl Ruge ('Zeitschrift für Geburtshülfe,' Bd. ii, S. 24) has published two cases with a drawing. He calls attention to the thinness of the anterior wall at the seat of flexion, but does not consider the effect of the intestine in causing the displacement; it is noteworthy, however, that in one of his cases it is mentioned that the colon and the rectum (which passed down on the *right* side of the pelvis) were distended

(*stark gefüllt*) with meconium; in the other case the large intestine had been emptied of meconium (in a breech presentation), and in front of the uterus lay an empty coil of small intestine. Tschaussow ('Anatomischer Anzeiger,' 1887, s. 546) also figures a case.

Dr. HORROCKS pointed out that the uterus was not only retroflexed, but also pushed bodily backwards towards the sacrum, *retroponirt*, or retroposed; also that it was elevated, the top of the uterus lying near to and in front of the lumbar vertebræ.

Dr. CHAMPNEYS thought that Dr. Spencer's explanation was probably correct. The arrangement of the bowels, and especially of the colon, in infants was subject to considerable variation. Granted the displacement of the colon and its distension, as seen in the specimen, the displacement of the uterus was accounted for. The uterus was retroposed, retroflexed, and retroverted.

SUPPOSED UNRUPTURED TUBAL GESTATION SAC.

By W. S. PLAYFAIR, M.D.

A COMMITTEE, consisting of Drs. Herman, Griffith, and Playfair, was appointed to report on this specimen.

The original account of the case will be published with the report.

PROTRACTED GESTATION.

By C. PAGET BLAKE, M.D., F.R.C.P. (communicated by W. S. PLAYFAIR, M.D.).

(Received June 16th, 1891.)

Annual Meeting.

The audited balance-sheet of the Treasurer (Dr. Herman) was read. It was moved by Dr. W. S. A. Griffith, seconded by Dr. Cullingworth, and carried unanimously—"That the audited report of the balance-sheet just read be received, adopted, and printed in the next volume of the 'Transactions.'"

The report of the Honorary Librarian (Dr. William Duncan) was read. Mr. Bland Sutton proposed and Dr. Lewers seconded—"That the report of the Honorary Librarian be received, adopted, and printed in the 'Transactions.'" This was carried unanimously.

Report of the Honorary Librarian.

"During the past year 123 volumes have been added to the Library. These are made up of 52 books and 13 tracts (1 volume) presented to the Library, and 13 books and 20 tracts (2 volumes) purchased. The periodicals make 55 volumes.

"The total number of volumes in the Library at the end of 1891 amounts to 4361.

"William Duncan."

The report of the Chairman of the Board for the Examination of Midwives (Dr. Champneys) was then read. It was proposed by Dr. Davson, seconded by Dr. Rutherfoord, and agreed to unanimously—"That the report of the Chairman of the Board for the Examination of

BALANCE-SHEET OF THE OBSTETRICAL SOCIETY OF LONDON.

(*Abstract of the Receipts and Expenditure for the year ending December* 31*st*, 1891.)

1891. RECEIPTS.				£	s.	d.
To balance from 1890:						
Balance as per Bank Book	£266	5	4			
Cheque paid 1890, cleared 1891	1	1	0			
	£270	6	4			
Less cheque drawn 1890, presented 1891	4	2	6	266	3	10
„ (1) 627 ANNUAL SUBSCRIPTIONS at £1 1*s*., realising				658	7	0
„ (2) 1 COMPOSITION FEE at £10 10*s*.				10	10	0
12 Ditto at £5 5*s*.				63	0	0
„ (3) MIDWIVES' EXAMINATION FEES				242	11	0
„ (4) SALE OF SURPLUS 'TRANSACTIONS' and 'RULES FOR INFANT MANAGEMENT' (Society)				3	8	5
Do. do. (Longmans)				50	4	1
„ (5) INTEREST on Consols				48	5	4
Amount of Stock, 2¾ per Cent. Consols, standing in the names of the Trustees	£1800	0	0			
				£1342	9	8

Audited and found correct,
February 2nd, 1892.

(*Signed*) PERCY BOULTON.
AMAND ROUTH.
M. HANDFIELD-JONES.
W. S. A. GRIFFITH.
ALBAN H. G. DORAN.

1891. EXPENDITURE.				£	s.	d.
By (1) 'TRANSACTIONS,' VOL. XXXII, Printing, Lithography, Paper, Binding, Index, and delivery of Volume				304	15	1
„ (2) LIBRARY:						
Books Purchased and Binding				32	3	6
„ (3) MUSEUM AND LIBRARY:						
Rent	£200	0	0			
Librarian, Salary and Commission	199	16	9			
Repairs, Cleaning, Coals, Lighting, and Petty Disbursements	44	19	11	444	16	8
„ (4) GENERAL MEETINGS AND OTHER EXPENSES:						
Expenses of Meetings	£29	12	3			
Stationery, Postage, and Petty Disbursements	52	16	5	82	8	8
„ (5) EXAMINATION OF MIDWIVES:						
Fees to Examiners	£181	18	3			
General Expenses	19	11	1	201	9	4
„ (6) BANKING EXPENSES:						
Commission, Stamps, Cheque Book, &c.				0	9	4
„ (7) Petty Cash in Librarian's hands				0	12	6
„ (8) BALANCE as per Bank Book				275	14	7
				£1342	9	8

Midwives be received, adopted, and published in the 'Transactions.'"

Report of the Chairman of the Board for the Examination of Midwives.

"The numbers of candidates for the certificate of the Society continue to increase, and have latterly increased largely.

"In 1891, 258 presented themselves, of whom 204 passed, 54 failed (including two absentees), giving nearly 20 per cent. of rejections. The grand total since 1872 (the first examination) stands thus: candidates 1388, passed 1124, failed 249, absent 15, giving 19 per cent. of rejections (including absentees).

"F. H. CHAMPNEYS."

The Scrutineers having presented their report, the result of the Ballot was declared by the President as follows:

Honorary Fellows (British subjects).—Sir Joseph Lister, Bart.; Sir William Turner (Edinburgh). (*Foreign subjects.*)—Professor Carl S. F. Credé (Leipzig); Professor William Thompson Lusk (New York).

OFFICERS AND COUNCIL.

President.—J. Watt Black, M.A., M.D.

Vice-presidents.—Percy Boulton, M.D.; Thomas Charles Steuart Corry, M.D. (Belfast); Alban Doran; Frederick H. Gervis; William Appleton Meredith, M.B., C.M.; Harry Speakman Webb (Welwyn).

Treasurer.—G. Ernest Herman, M.B.

Chairman of the Board for the Examination of Midwives.—Francis Henry Champneys, M.A., M.D.

Honorary Secretaries.—Peter Horrocks, M.D.; William Duncan, M.D.

Honorary Librarian.—W. Radford Dakin, M.D.

Other Members of Council.—Edward Clapham, M.D.; Frederick William Coates, M.D. (Salisbury); Charles James Cullingworth, M.D.; Henry W. Freeman (Bath); John H. Galton, M.D.; Joseph Johnston, M.D.; Henry Ambrose Lediard, M.D. (Carlisle); Henry Colley March, M.D. (Rochdale); Arthur Perigal, M.D. (Barnet); John Baptiste Potter, M.D.; Marmaduke Prickett, M.A., M.D.; Thomas Laurence Read; Henry Trotter Rutherfoord, B.A., M.B.; John Sutton Sams; Herbert R. Spencer, M.D.; Edward Sabine Tait, M.D.; George Herbert Wade (Chislehurst); John Williams, M.D.

The President then delivered the Annual Address.

ANNUAL ADDRESS.

GENTLEMEN,—In common with the whole of Her Majesty's subjects, the Council of the Obstetrical Society of London has noticed with the greatest sorrow the lamented death of His Royal Highness the Duke of Clarence and Avondale.

I regret to state that our worthy Librarian, Mr. R. W. Savage, is lying seriously ill of double pneumonia, supervening on an attack of bronchitis with which he was seized three weeks ago. I inquired after him at his residence in Brondesbury Villas, Kilburn, this afternoon, and was informed that his condition improves but slowly. In the meantime the Council has found it necessary to arrange for the temporary performance of his duties by an efficient substitute.

Your Council considered this evening a letter of January 16th, 1892, received by our Senior Secretary from Dr. Jacobs, the General Secretary of the Periodical International Congress on Gynæcology and Obstetrics, which has been founded on the suggestion of the Belgian Society of Gynæcology and Obstetrics, and which will hold its first meeting in Brussels from the 14th to the 19th of September next. The letter indicates, as subjects which will come under discussion, pelvic suppurations, extra-uterine pregnancy, and placenta prævia, and invites the Fellows of this Society to take part in the work of the Congress. The following is the text of the letter:

"CONGRÈS PÉRIODIQUE INTERNATIONAL DE GYNÉCOLOGIE ET D'OBSTÉTRIQUE.

" *Première Session—Bruxelles*, 1892.

" BRUXELLES; 16 *Janvier*, 1892.

" Secrétariat général: Dr. JACOBS,
12, Rue des Petits-Carmes, Bruxelles.

" Monsieur et très honoré Confrère,

" J'ai l'honneur d'informer MM. les Président et Membres de la 'Société d'Obstétrique de Londres' de l'initiative prise par la 'Société belge de Gynécologie et d'Obstétrique' de fonder un Congrès International périodique d'Obstétrique et de Gynécologie, dont la 1ère Session aura lieu à Bruxelles du 14 au 19 Septembre 1892.

" Trois questions ont été porteés à l'ordre du jour:

" 1°. Des suppurations pelviennes; rapporteur, M. le Dr. Segond, de Paris.

" 2°. Des Grossesses extra-utérines; rapporteur, M. le Dr. A. Martin, de Berlin.

" 3°. Du placenta prævia; rapporteur, M. le Dr. Berry Hart, d'Édimbourg.

" La Société belge de Gynécologie et d'Obstétrique espère rencontrer de la Société Obstétricale de Londres et convie les Membres à prendre part aux travaux du Congrès.

" Croyez, Monsieur et très honoré confrère, à toute ma considération,

" DR. JACOBS.

" À M. ALBAN DORAN,
Secrétaire de la Société Obstétricale de Londres,
Londres."

The Council has resolved—" That the President be requested to do all in his power, by communication to the Society and otherwise, to promote the objects of the proposed Congress."

A letter addressed to myself by Mr. Fell Pease, M.P., and Mr. Rathbone, M.P., in December last, inquiring

whether this Society was of opinion that a petition should be presented to the Government, asking them to appoint a Select Committee to inquire into the question of the Legal Registration of Midwives, was laid before the Council of the Society at its meeting in January. The Council being of opinion that the appointment of a Select Committee was eminently desirable, and believing that it would meet your wishes by giving an affirmative reply to the query, resolved—"That the Council approve of the proposal to petition Government to appoint a Select Committee to inquire into the question of the Legal Registration of Midwives, and that they are willing to sign a petition to that effect."

The Board for the examination of midwives is increasingly successful. In 1881 the number of candidates was 258, and the number passed 204, as against 202 examined and 159 passed in 1890.

It is satisfactory to find that our financial position is fully as good as it was a year ago. On December 31st, 1891, our cash balance was £275 14*s.* 7*d.*, while it was £266 3*s.* 10*d.* on the same date in 1890.

During the year 1891 the membership of the Society has somewhat declined. The number of new ordinary Fellows elected was 23. By death, resignation, and erasure we have lost 43 ordinary Fellows. Three, however, of the deaths included in this number have to be debited to previous years, although not known to us until now. The deaths in question are those of Dr. John Boyd Caskie, of Islington, who died in 1889; and of Dr. John Moore Fisher, of Hull, and Mr. Herbert C. Rowbotham, of Derby, who both died in 1890. We must hope that during the current year the balance will be redressed. This result will be rendered all the more likely if we ourselves will manifest greater eagerness to make known to our medical friends the advantages of membership.

So far as is ascertained as yet, the ordinary Fellows parted from us by death during 1891 number five. I propose to notice them in the order of their decease.

Charles Verrall Willett.

Charles Verrall Willett was educated at St. Bartholomew's Hospital. He became M.R.C.S.Eng. and L.S.A. in 1861. He was appointed House Surgeon to the Great Northern Hospital in 1864, after having served as Surgeon on the Peninsular and Oriental Company's steamships "Tagus," "Alhambra," and "Sultan." He became House Surgeon to the Brighton and Hove Dispensary in 1865. He settled in practice in Brighton in 1866, at Shoreham, Sussex, in 1867, again in Brighton in 1869, at Brandon, Suffolk, in 1878, at Bristol in 1884, in West Kensington, London, in 1887, and again at Shoreham, Sussex, in 1891.

He was the author of a paper on "Traumatic Hernia of Abdomen from Injury from Buffer of Railway Engine."

He joined this Society in 1879. His death took place in Manchester Street, London, on March 6th, 1891.

Francis Joseph Salter.

Francis Joseph Salter, of 18, College Road, Leeds, studied medicine at the Yorkshire College, Leeds, and at the Leeds Infirmary. He became L.R.C.P.Edin. and L.M. in 1882, and L.R.C.S.Edin. and L.M. in the same year. He was appointed Visiting Surgeon to the Chester General Infirmary, and afterwards House Surgeon to the Devonshire Hospital, Buxton, Derbyshire. He joined this Society in 1883, and in the same year he sent two brief communications to the 'British Medical Journal;' one on the "Nephritis of Pregnancy affecting Vision," and the other on "True Knots of the Umbilical Cord." He died on March 25th, 1891, at the early age of thirty-four.

Dr. William Edward Steavenson.

William Edward Steavenson, of Welbeck Street, Cavendish Square, was born at Hartest Rectory, Bury

St. Edmunds, on March 22nd, 1850. He died from influenza and bronchitis on June 1st, 1891, at the age of forty-one. His father was the late Rev. Joseph Steavenson, Vicar of All Saints, Newmarket, and a descendant of the Steavensons of Stanton and Elton in the Peak, in the county of Derby, of the time of King James the Second.

After receiving his general education at the Ipswich School he commenced the study of medicine at St. Bartholomew's Hospital in 1869. He became M.R.C.S.Eng. in 1873 and L.S.A. in 1874. In 1873–4 he was House Surgeon at St. Bartholomew's Hospital. In 1874 he entered at Downing College, Cambridge, as an undergraduate, and he was Natural Science Prizeman there in 1877. He became M.B.Cantab. in 1879, and M.D.Cantab. in 1884. He became a Member of the Royal College of Physicians of London in 1883. In 1878 he returned to St. Bartholomew's Hospital as House Physician.

He was successively House Surgeon and House Physician at the Hospital for Sick Children, Great Ormond Street, from 1879 to 1882.

He was Casualty Physician at St. Bartholomew's Hospital from 1883 to 1885.

In 1882 he was appointed to organise and superintend the Electrical Department which had just been created at St. Bartholomew's Hospital. This appointment he held up to the time of his death.

He was also Physician to the Alexandra Hospital for Children with Hip Disease, and to the Grosvenor Hospital for Women and Children in Vincent Square. He was likewise Physician for Diseases of Women and Children to the St. George's and St. James's Dispensary.

He was one of the original secretaries of the Cambridge Medical Graduates' Club.

Although he held so many public appointments entailing arduous work, he was not a man of strong constitution and iron frame, but the reverse, having been a sufferer from spasmodic asthma from childhood, with consequent emphysema. The fortitude with which he

bore up against physical disability was the admiration of a wide circle of attached friends.

He displayed great energy in teaching as well as in practice, and he was a frequent contributor to medical literature.

As the subject of his thesis for the M.B. degree of the University of Cambridge he chose Spasmodic Asthma, the disease from which he himself suffered so much. It was published in 1879, and it had the fortune, unusual with inaugural dissertations, to run into a second edition. Assuming that in all cases of spasmodic asthma the predisposing cause is an abnormal excitability of the vagus or of the respiratory centre, he maintains that a common exciting cause is to be found in the electrical condition of the atmosphere or of the locality, taken in relation with the electrical condition of the patient at the time. From observations on his own case he was led to consider that negative electricity has a deleterious influence. He explains the frequent onset of asthma in the small hours of the morning by the fact that the free positive electricity of the atmosphere then approaches its minimum. By eleven o'clock in the morning, when the positive electricity of the atmosphere attains its first maximum, the attack passes off.

Interested thus early in electricity in its medical bearings, he selected it, on taking the M.D. degree of his university in 1884, as the subject of his thesis, which he entitled "Electricity, and its Manner of Working in the Treatment of Disease." This rather quaint name is a literal translation of the title of a Latin inaugural thesis written by his grandfather's brother, Dr. Robert Steavenson, of Newcastle-on-Tyne, on graduating in Medicine in the University of Edinburgh in 1778. He here explains the malaise and oppression which many persons experience before a thunderstorm by the fact that the atmosphere in the neighbourhood of the earth is at the time negatively electrified. He expresses his belief that he had produced a fit of asthma in himself by acci-

dentally becoming charged with negative electricity. The immunity from pure nervous asthma experienced by many asthmatics in foggy weather he considers due to the predominance of positive electricity in such weather. He even thinks that it may be possible in the future to prevent gout by the application of electricity.

Having thus a strong predilection for the subject of medical electricity, he gradually became an electrical specialist. As such he exhibited the fervid enthusiasm which seems to be inseparable from electrical specialism, and which necessitates a specially searching examination and analysis of the therapeutical results claimed for electricity. As an expert in the medical uses of electricity he was largely consulted by both patients and practitioners. In the practice of that perilous specialty he held fast his integrity to the end.

In 1890 he published a work on "The Uses of Electrolysis in Surgery." After defining and explaining electrolysis, he gives an account of its use in aneurysm, nævi, strictures, diseases of the urinary organs, diseases of women, fistulæ, wounds, ulcers, and hydatids. He also describes and figures various instruments devised by himself for electrical treatment.

He wrote papers on "The Medical Act (1858) Amendment Bill and Medical Reform;" "Troublesome Frequency of Micturition;" "Four Cases of Neuralgia of the Sciatic Nerve successfully treated by Galvanism;" "The Therapeutical Applications of Electricity;" "Treatment of Fibroid Tumours by Electricity;" "Removal of Superfluous Hairs;" "Thirty Cases of Fibro-myomata of the Uterus treated by Electrolysis," of whom twenty-three were said to be benefited by the treatment; besides other papers in the medical journals and in the 'St. Bartholomew's Hospital Reports.'

At the Annual Meeting of the British Medical Association at Brighton, in 1886, he read a paper on "The Employment of Electricity in the Treatment of Diseases of the Urinary Organs."

In 1888 he read a paper at this Society on "The Use of Electrolysis in Gynæcological Practice." He gave a concise account of the theory and action of electrolysis, and he advocated its employment in stricture of the female urethra, stenosis of the os uteri and cervical canal, atresia of the uterine canal following amputation of the cervix, abrasions of the cervix uteri, chronic cervical catarrh, uterine fibroids, and cancer.

He married a granddaughter of Benjamin Travers. He is survived by her and by an only child.

Dr. James Henry Bennet.

James Henry Bennet was born in Manchester on March 16th, 1816. His father was a cloth manufacturer, who, in addition to other inventions, devised and gave its name to the thick corded cotton stuff which is known as corduroy. Early left a widow with a young family, Bennet's mother took up her residence in Paris after her husband's death, and sent her son James Henry, who was then seven years of age, to the St. Louis College, where he obtained an excellent classical education. Having determined to study medicine, James Henry entered at Guy's Hospital, but very soon left it to become apprentice to his uncle, Mr. Osmond Taberer, in Derbyshire. In the early part of 1836, when he was twenty years of age, he returned to Paris and joined the medical schools. He was a diligent student there, and in 1840, coming out fifth in a list of 175 candidates for the *internat*, he was appointed an Interne for four years. As clinical clerk, dresser or Interne he was associated with several of the physicians and surgeons who paid special attention to gynæcology. From the time when he went to the Paris medical schools he was thrown into contact with Velpeau, and during the year 1838 he was clinical clerk and dresser to that great surgeon at the Charité Hospital. He was Interne at the St. Louis Hospital in 1840, and again in 1843 under Jobert (de Lamballe) and Emery. In 1841 he was

Interne at the Salpêtrière. In 1842 he was Interne at La Pitié under Lisfranc and Gendrin.

He took the degree of M.D.Paris in 1843, when he was twenty-seven years of age, and in the same year he settled in practice in Cambridge Square, Hyde Park, London. He afterwards removed to Grosvenor Street. In 1844 he became a Member of the Royal College of Physicians of London. In 1845 he was appointed Physician-Accoucheur to the Western General Dispensary, but he resigned the appointment in 1850, owing to his positive inability to attend to the duties, so numerous had the patients become, to quote his own words. He became Physician-Accoucheur to the Royal Free Hospital in 1853, and remained connected with it until 1859.

For some years he was sub-editor of the 'Lancet,' preceding Dr. Tyler Smith in that office.

In 1859 the harassing cares and labours of a London professional life having broken down his vital powers, as he says, he was obliged to seek abroad rest and a genial winter climate. The reminiscences of former travel led him to the Riviera, and the ties of friendship, to again quote his own words, to Mentone, then an Italian city. He had become consumptive, and departed southwards in the autumn of 1859, "to die in a corner," as he and his friends thought. At Mentone he gradually regained a measure of strength, and returned to professional work. In future he spent his winters at Mentone and his summers in England, partly in Grosvenor Street, London, and partly at The Ferns, Weybridge, Surrey. In 1875 he retired altogether from practice in England.

Shortly after settling in London he married a daughter of Mr. Joseph Langstaff, F.R.C.S. formerly President of the Medical Board of Calcutta. He is survived by her. He had no children. He died at the age of seventy-five at La Bollène, Alpes Maritimes, France, on July 28th, 1891. Under the patronage of the Mayor, the inhabitants of Mentone, which may be said to have been discovered as a health-resort by him, and which largely owes its growth

and prosperity to his writings and personal influence, are about to erect a public drinking-fountain as a memorial of him. Dr. Siordet is Chairman of the Committee, and H.B.M. Vice-Consul is Treasurer.

Bennet was a man of great mental energy, and of ardent temperament, with strong opinions, strong feelings, an enthusiastic love of nature, and an intense egoism.

He began a career of incessant literary activity in 1840 by writing a paper, never published, on the curability of consumption.

In 1841 he published an address delivered to the members of the Parisian Medical Society, of which he was then Vice-President.

His graduation thesis, presented to the Faculty of Medicine of Paris in 1843, was on "Inflammation and Ulceration of the Neck of the Uterus."

In 1844 he wrote in the 'Lancet' on the "Treatment of Rheumatism by Large Doses of Nitrate of Potass and Sulphate of Quinine," and on "The Influence of Large Blisters on the Urinary Organs, and their Use during the Acute Period of Inflammatory Diseases."

In 1845 he wrote a series of articles in the 'Lancet' on "Inflammation, Ulceration, and Induration of the Neck of the Uterus." These he expanded and published in the same year as a separate work, with the title "A Practical Treatise on Inflammation, Ulceration, and Induration of the Neck of the Uterus." The work reached a fourth edition in 1861, under the title "A Practical Treatise on Inflammation of the Uterus, its Cervix and Appendages, and on its Connection with other Uterine Diseases." The first edition was translated into German, and the second into French. An American edition was published five times.

Among his other works may be mentioned "A Review of the Present State of Uterine Pathology," 1856; "Nutrition in Health and Disease," 1858, a work which attained a third edition in 1877; "On the Treatment of Pulmonary Consumption by Hygiene, Climate, and Medicine," 1866,

and a third edition of the same greatly enlarged in 1878. The first and the last of these three works appeared previously in the pages of the 'Lancet.'

He also wrote several works on climate and scenery, the most important of which is "Winter and Spring on the Shores of the Mediterranean," fifth edition, 1875. The first edition was published in 1861 under the name "Mentone and the Riviera as a Winter Climate." His works of scenery and travel are written in a picturesque style, and abound in interesting descriptions.

Besides those already mentioned he wrote innumerable papers in the 'Lancet.' The following list, taken in chronological order, will sufficiently indicate the subjects discussed in these papers :—"Inflammatory Ulceration of the Cervix Uteri during Pregnancy," 1846 ; "On Sulphuric Acid as a Remedy for Poisoning by Lead," 1846 ; "On Ulceration of the Cervix Uteri accompanying Uterine Polypi," 1847 ; "Ulceration of the Cervix following the Removal of Uterine Polypus," 1847 ; "On Inflammation and Ulceration of the Neck of the Uterus in the Virgin Female," 1847 ; "On Inflammation and Abscess of the Uterine Appendages in the Non-puerperal Condition," 1848 ; "On Healthy and Morbid Menstruation," 1852 ; "Hæmorrhage in Early Pregnancy practically considered," 1858 ;"On the Connection between Phthisis and Uterine Disease," 1865 ; "On the Surgical Treatment of Painful Menstruation," 1865 ; "The Fossil Man at Mentone," 1872 ; and "On the Cause and Prevention of Sea-sickness in Short Passages," 1874. His letters to the 'Lancet,' chiefly controversial, were also numerous.

Besides this he frequently wrote in the 'British Medical Journal,' and he read various papers at the annual meetings of the British Medical Association. He sent numerous contributions to the 'Gardener's Chronicle' also.

As a gynæcologist he was dominated by the idea of inflammation and ulceration. While in Paris he had closely followed the practice of Lisfranc and of Gendrin at La Pitié, and he had come to range himself with

Récamier and them in regarding inflammation as the root of uterine disease, rejecting altogether the mechanical doctrines of the school of Amussat and Velpeau. In Paris he had become familiar with the use of the vaginal speculum. For years he had witnessed the constant employment of it by Lisfranc and by Gendrin at La Pitié, by Jobert (de Lamballe) at the St. Louis, and by Boys de Loury at the St. Lazare. He came to London full of enthusiasm for the French gynæcological teaching, which he soon found opportunity to put into practice, and which he promulgated with all the zeal of a devotee.

Although the vaginal speculum had been familiarly employed in this country by Sir James Simpson, Dr. Tyler Smith, Sir Charles Locock, Dr. Murphy, and others before Bennet's time, yet it is to him, and in a less measure to Mr. Whitehead, of Manchester, who, like Bennet, had studied in Paris, that is chiefly due in this country the credit of having shown the great frequency of visible morbid conditions of the cervix uteri. This, as is well known, was not done without arousing a fierce controversy, in which many of the advocates and of the opponents of the use, or of the frequent use, of the speculum took up an extreme position, and in which some of the combatants battled for victory rather than for truth.

The not unnatural disinclination of gynæcologists and others to believe in ulceration of the cervix uteri and in the necessity for using the speculum was greatly aggravated by the overdrawn and alarmist account of the disease given by Dr. Bennet, and by the employment of what was regarded as an indelicate means of investigation and of treatment.

Bennet had painted a dismal picture of the consequences of ulceration of the neck of the uterus associated with inflammation and hypertrophy. Among these consequences he included prolapsus uteri; extension of inflammation to the vagina, vulva, rectum, and bladder; hæmorrhoids; prolapsus ani; neuralgia in the uterus, face, head, neck, back, chest, and elsewhere; disorders of men-

struation; mammary troubles; dyspepsia; lithiasis; biliary derangement; palpitation; irregular cardiac action; dyspnœa; phthisis; impairment of sight and of hearing; spinal irritation; convulsive hysteria; aphonia; insomnia; and insanity. He says further that chronic inflammation of the uterine neck, if neglected, not unfrequently causes the death of the patient.

The heroic and prolonged treatment which he considered necessary also stirred up strong opposition. For inflammation of the neck of the uterus accompanied by ulceration he followed the French school, and recommended the application of nitrate of silver, mineral acids, the acid nitrate of mercury, *potassa fusa, potassa cum calce,* and the actual cautery, the habitual use of which last in such cases he had become familiar with in Paris in the hospital-practice of Jobert (de Lamballe). For some years, he says, he frequently resorted to the actual cautery in cases in which he wished to modify the vitality of very intractable ulcerations persisting within the os uteri, using freely olive-shaped cauteries sufficiently small to pass within the morbidly dilated os. On account of the dread with which it inspired patients, however, he in course of time all but ceased to employ this mode of treatment, and contented himself with *potassa cum calce* instead.

It was in the second edition of his work on "Inflammation of the Uterus," greatly enlarged and published in 1849, that Dr. Bennet dogmatically advanced the views above indicated. The controversy about the use of the speculum culminated in 1850, when the question was brought under discussion at the Westminster Medical Society, at the Royal Medical and Chirurgical Society, and at the Medical Society of London.

The opponents of the frequent employment of the speculum were vehement in their denunciations. Thus a most distinguished London obstetrician, who himself was in the habit of using the speculum in obstinate cases of leucorrhœa, went so far as to state, in an unguarded expression in a letter to the 'Lancet' in 1850, that

Mr. Whitehead, of Manchester, who had examined with the speculum 2000 women, had been guilty of "2000 immoralities altogether unjustifiable." Dr. Marshall Hall wrote to the 'Lancet' in 1850 denouncing the instrument, and declaring that a new and and lamentable form of hysteria had been induced by the use of it, and that patients examined by it "become reserved and moody and perverse, and speak unintelligibly in broken sentences." "Whole families," he says, "have been subjected to the use of the speculum." "There is a fashion," he adds, "even in regard to the prevalence of ailments. When Louis XIV was suffering from *fistula ani* all the gentlemen and ladies of the court thought it proper to walk lame." Dr. Marshall Hall's allegation as to the abuse of the speculum is borne out by Dr. Tyler Smith's statement at the Westminster Medical Society in 1850 that "at the present time a veritable uterine panic affects the upper and middle classes of society, and every woman with the slightest ache or discharge is not satisfied until the peccant organ has been ocularly inspected." A good illustration of the extravagance of some of the advocates of the speculum is to be found in the letter of a London practitioner in the 'Lancet' in 1850, recommending the use of it for the diagnosis of doubtful presentations in parturition. It is, however, scarcely necessary to adduce published evidence of the abuse of the speculum, for it is notorious that it was sometimes used twice a day in the same patient for the treatment of ulceration of the cervix.

Part of the criticism to which Dr. Bennet was subjected he brought upon himself by his inaccurate use of the term "ulceration." "From his own descriptions," says Dr. Tyler Smith, addressing the Westminster Medical Society in 1850, "it is evident that Dr. Bennet classes abrasions, excoriations, and granulations together as forms of ulceration—a proceeding which, it appears to me, is utterly opposed to all sound pathology." Dr. Robert Lee spoke on the subject still more emphatically. "Dr. Bennet's ulcer," he said at the Royal Medical and Chirurgical

Society in 1850, "could not be recognised by the sense of touch, for it had no margin, inverted or everted; it could not be seen through the speculum till the part had been rubbed with the nitrate of silver. It had neither centre nor circumference, beginning nor end."

That controversy may be said to be ended. Can we say that prejudice and personal and party feeling are entirely banished from scientific discussions now?

Bennet's services to gynæcology were not limited, as is sometimes supposed, to showing the great frequency of so-called ulceration of the os uteri, and the use of the speculum.

He was one of the first to discover that pelvic inflammation exists, and not only so, but that it frequently exists, in the non-puerperal state. This may be seen in the second edition, 1849, of his work on Inflammation of the Uterus, and in his subsequent writings.

In the same edition of that work he draws attention to the presence of cervical catarrh in erosions of the os uteri, and to the necessity for exposing the cervical canal by separating the lips of the os, and for treating that catarrh as well as the more obvious erosion.

In the same edition of that book he attributes the excessive vomiting of pregnancy to inflammatory ulceration of the cervix. He had become acquainted with the fact in the Paris hospitals ten or twelve years previously, he says. In 1875 he published a paper in the 'British Medical Journal,' in which he points out that when such is the cause of the hyperemesis, the difficulty and danger usually cease when suitable applications are made to the cervix. His teaching on this subject was too long disregarded.

In 1846 he discovered, as he relates in his "Review of the Present State of Uterine Pathology," 1856, that the uterine canal in nulliparous women is not straight, but curved with an anterior curvature. In other words, he discovered in the living subject the normal ante-flexion of the uterus.

In the second edition of his work on "Inflammation of the Uterus," 1849, he notes the presence of a natural stricture or coarctation at the internal os uteri. "From its universality and occasional persistence after death it must," he says, "be the result of the anatomical structure of parts, and probably of the presence of a kind of sphincter."

In the 1861 edition of the same work he describes a method which he had for many years substituted for plugging the vagina in cases of uterine hæmorrhage. This is plugging the cervical canal instead, not with tents, but with two or three small pieces of cotton tied to a piece of thread, which he wedges in firmly afterwards, covering the cervix with two or three larger pieces left in close contact with it on the withdrawal of the speculum.

In the same edition he shows how erroneous it is to regard pain in the ovarian region as being necessarily ovarian in origin, pain in that region having nothing to do with the ovaries as a rule.

He became a Fellow of this Society in 1873, and he was a member of Council from 1881 to 1883. In the latter year he read a paper at the Society on the "Os Uteri Internum; its Anatomy, Physiology, and Pathology," recalling his past work on the subject, and dealing with the question of incision and dilatation of the internal os uteri.

Edward Overman Day.

Edward Overman Day, of 78, Waterloo Road, S.E., joined the Society in 1878. He died suddenly on August 4th, 1891, at the age of thirty-nine. He was found by his servant at his surgery in a fainting condition shortly after his arrival there in the morning of that day. He never rallied, his death being attributed to simple failure of the heart's action.

He had been a student at Guy's Hospital, and he became M.R.C.S.Eng. and L.S.A. in 1873. In addition

to holding Benefit-Society appointments he was Assistant Surgeon and Administrator of Anæsthetics to the Royal Hospital for Children and Women, Waterloo Bridge Road. He was the author of "How to prevent the Diseases of Babyhood;" of an account of a successful case of tracheotomy in a child ten months old, in the 'St. Thomas's Hospital Reports' for 1878, and of an account of a new hip-joint splint in the 'Medical Press' for 1880; and he was the inventor of the *Ne Plus Ultra* Feeding Bottle, as described in the 'British Medical Journal' for 1881.

Although so young he had acquired an enormous practice amongst the residents in his neighbourhood. He had an especially high reputation for skill in the diseases of children. He enjoyed great personal popularity, and he had great kindness of disposition and frank and genial manners. He was withal a shrewd man of business.

During the past year death has removed no fewer than four of our ten foreign Honorary Fellows. These were Professor Fordyce Barker of New York, Professor Carl Braun von Fernwald of Vienna, Professor Scanzoni von Lichtenfels of Würzburg, and Professor Theodor Hugenberger of Moscow. I knew all of them, having become acquainted with Hugenberger in Edinburgh in 1863, and Fordyce Barker in London in 1875, and having frequented the clinic of Braun in Vienna for three months in 1868, and that of Scanzoni in Würzburg for a short time in the same year.

Professor Benjamin Fordyce Barker.

Benjamin Fordyce Barker, the son of Dr. John Barker, a country practitioner in Maine, was born in Wilton in that State on May 2nd, 1818. He died at his home in New York on May 30th, 1891, aged seventy-three. He had been in failing health since an attack of illness, said to be typhoid fever, contracted in London in 1885. The imme-

diate cause of his death was ingravescent apoplexy, associated with interstitial nephritis and valvular disease of the heart. He was related to Dr. George Fordyce, F.R.S., the well-known writer on fevers. In 1843 he married Miss Dwight, of Springfield, Massachusetts, a descendant of the elder Pitt, Lord Chatham. She, with an only son, survives him.

He began his academical education at Bowdoin College, in his native State, in 1833, when he was fifteen years of age. He took his academical degree in 1837 at the age of nineteen, and the degree of Doctor of Medicine in 1841, when he was twenty-three years of age. After that he studied medicine for a short time in Boston, Massachusetts, and subsequently in Edinburgh and in Paris.

He commenced practice in Norwich, Connecticut, in 1845, but he was appointed Professor of Midwifery in Bowdoin Medical College in 1846, and he then took up his residence there. In 1850 he came to New York to practise at the suggestion of various friends, and in the same year he was appointed Professor of Midwifery in the New York Medical College, of which he was one of the founders. In 1852 he was appointed Obstetric Physician to Bellevue Hospital and Professor of Obstetrics in its Medical College, and in 1860 Professor of Clinical Midwifery and of Diseases of Women in the same college. He became consulting physician to several hospitals, and amongst others to the Woman's Hospital of New York. He was for many years President of its Medical Board, remaining so up to the time of his death. He was one of the founders and he was the first President of the American Gynæcological Society in 1876–7. He was President of New York Academy of Medicine from 1879 to 1884, and of the Medical Society of the State of New York in 1860. He was an honorary Fellow of the Obstetrical Societies of London, Edinburgh, New York, Philadelphia, and Louisville, of the Philadelphia College of Physicians, and of the Royal Medical Society of Athens.

In 1886 he received, at the tercentenary celebration of the University of Edinburgh, the honorary degree of LL.D., an honour which he especially valued, as it had been conferred upon very few Americans previously. The same degree was conferred upon him by Bowdoin College, by Columbia College, and by the University of Glasgow.

While he showed great energy and vigour in all that he undertook, he was a man of remarkable amiability, and of singular, not to say feminine, sweetness of disposition, of a sunny and genial temperament, and of unbounded generosity and hospitality. He was held in general affection and esteem in the United States, by the medical profession and by the general public alike.

It was his habit from 1858 onwards to spend part of the summer in Europe, and he often came to England. He was well known in London, and was everywhere a welcome guest. He was frequently present at the annual meetings of the British Medical Association.

He counted among his intimate personal friends in Europe, not only many members of the medical profession, but also many celebrated persons outside the profession. He has been spoken of as the Sir Henry Holland of America.

He had no taste for operative surgery, and he seldom took the knife into his hand, although on one occasion he performed the Cæsarean section. He was widely celebrated as a physician, and especially as a therapeutist. He was no mere specialist, but was deeply interested in general medicine. His enormous practice was accordingly by no means limited to obstetrics and gynæcology. He attended General Grant during his last illness, and he was one of the physicians summoned to the death-bed of President Garfield.

He was extremely popular as a teacher. He spoke with great fluency, although for the last twenty years of his life his voice was rendered husky by partial paralysis of one of his vocal cords.

He was often chosen to give addresses at Medical Societies, and he wrote many papers which appeared in medical periodicals, or were published independently. The following selected list will give an adequate idea of his work in this direction :—An address "On some Forms of Disease of the Cervix Uteri" in 1848, published in the 'Proceedings of the Connecticut Medical Society'; a lecture on "Uterine Displacements" in the 'New York Medical Gazette,' 1853; "Malposition of the Fœtus detected by External Manipulations during Labour; Cephalic Version by the same Means Successful," in the 'American Medical Times' for 1860; "On the Cæsarean Section," in the 'American Medical Times' for 1860 and 1861; "On the Use of Anæsthetics in Midwifery," in the 'Transactions of the New York Academy of Medicine' in 1863 (read in 1861); "The Rise in Harlem—a Comedy," in 1864; a pamphlet on "Sea-sickness; a Popular Treatise for Travellers and the General Reader," published in 1870; "Some Clinical Observations on the Malignant Diseases of the Uterus," read before the New York Academy of Medicine in 1870; and a paper on "Uterine Disease as an Exciting Cause of Insanity," in the 'Journal of the Gynæcological Society of Boston' for 1873.

His collected papers have been translated into French and into German.

His well-known work, "The Puerperal Diseases," consisting of clinical lectures delivered at the Bellevue Hospital, was published in 1874, and it reached a fourth edition in 1884. It was translated into French, German, Italian, Spanish, and Russian. In selecting some of the special features of this celebrated work, note may be first taken of his lecture on "Thrombus of the Vulva and Vagina in connection with Parturition." Of this rather rare affection Barker had seen no fewer than twenty-two cases, thirteen in hospital and nine in private practice. Of the total number two only were fatal, both from puerperal fever. Having such an experience to guide him, he formulates the following three principles of treat-

ment:—*First*, that if the thrombus is not so large as to cause great pain by its pressure on the adjacent tissues, or to interfere materially with the delivery, or if rupture and the escape of blood almost immediately follow the development of the tumour, the forceps should be applied and delivery effected at once. In the latter case hæmorrhage must be immediately afterwards arrested by compresses of cotton batting, soaked in a solution of persulphate of iron, and applied directly to the bleeding vessels. The tampon usually recommended in such cases is to be avoided. *Second*, that when the tumour has attained such a size as to offer a mechanical obstacle to delivery, it should be at once incised and emptied of all clots, and delivery should then be effected with forceps. *Third*, that when the thrombus does not appear until after delivery it should be incised as soon as coagulation has taken place, if it is of any considerable size. When the tumour is high up in the pelvic cavity, however, incision may not be advisable.

In his lecture on puerperal mania he estimates the proportion of cases of that disease to the whole number of cases of labour as one in eighty. This high rate he attributes chiefly to moral causes. He is convinced also that the climate has a marked influence in developing the nervous susceptibilities of Europeans who settle in America. He mentions the curious fact that since 1855 he had seen thirteen cases of puerperal mania in the wives of physicians. He states as the probable explanation of the fact that they were all ladies of more than usual quickness of intellect, and that, having access to their husbands' books, they had read just enough midwifery to fill their minds with apprehensions as to the horrors which might be in store for them.

He never could bring himself to accept the new learning about puerperal fever. He here maintains that septicæmia, pyæmia, and puerperal fever are three distinct diseases. In the summer of 1875, the year after the first issue of his work, "The Puerperal Diseases," he came from America

for the express purpose of taking part in the discussion on puerperal fever in our Society. He contended that puerperal fever is a distinct disease, and quite different from septic poisoning. He maintained that it occurs epidemically, and declared that persons who deny that it ever occurs as an epidemic must attach a subtlety of meaning to the word epidemic which is not consonant with (the) common sense. He appeared to deprecate dogmatism, however, for he ended his speech by saying, "Allow me to close with the suggestion that it may be well for all of us who discuss puerperal fever to remember the exhortation of Oliver Cromwell when he lost patience with a Scotch Assembly: 'I beseech you, brethren, by the mercies of God, conceive it possible that you may be mistaken.'" If this quotation, taken apparently from Cromwell's letter addressed from Musselbnrgh, in 1650, to the General Assembly of the Kirk of Scotland, is to be taken as implying that Barker was staggered by the arguments advanced in the debate, he soon recovered from the passing doubt, and in the fourth edition of "The Puerperal Diseases," published in 1884, he stoutly maintains his original position.

One of the last papers written by Dr. Barker was on "The Influence of Maternal Impressions on the Fœtus," and was published in the 'Transactions of the American Gynæcological Society' for 1886. He thinks that the effect of maternal impressions is as well proved and as certain as any other facts which cannot be explained by science. Without assenting to the enthusiastic opinion, published by an American Fellow of this Society, that the correctness of the theory of maternal impressions has been demonstrated and proven as a positive fact by Dr. Barker, one may readily concede that some of the cases narrated by him are remarkable as coincidences at any rate. This applies especially to a case in which perforations were found in the ear-lobes of a new-born child whose mother, while in the first month of her pregnancy —her fifth—had been violently agitated by the piercing

of her daughter's ears for rings. Anyone interested in the question will find in Dr. Barker's paper, and in the discussion on it, numerous cases related and a copious reference to the literature of the subject.

Professor Carl Rudolf Ritter Braun von Fernwald.

Carl Rudolf Ritter Braun von Fernwald was born on March 22nd, 1823, at Zistersdorf, a little town of 1600 inhabitants, thirty-two miles north-east of Vienna, where his father, Dr. C. A. Braun, was a medical practitioner. In 1841 he entered the University of Vienna, and in 1847 he took his doctor's degree. In 1849 he succeeded Semmelweis as Assistant in the Obstetric Clinic under Professor Klein. In 1853 he became a privat-docent, and in the same year he was appointed Professor of Obstetrics and Vice-Director of the School for Midwives at Trent, in the Austrian Tyrol. In 1856, on the death of Klein, he was called back to Vienna as Professor of Midwifery in the University and Director of the Obstetric Clinic. In 1858 a Clinic for the diseases of women was established, and placed under his direction. He continued in these posts until his death, which took place on March 28th, 1891, when he had just entered on his sixty-ninth year. He left a widow, three sons, and three daughters.

He was made Dean of the Medical Faculty of the University of Vienna in 1867, and again in 1871, Rector Magnificus of the University in 1869, Knight of the Order of the Iron Crown, 3rd class, in 1872, and Aulic Councillor in 1877. He received decorations from the sovereigns of several foreign countries, the honorary Doctorate of Laws of the University of Edinburgh, and the honorary Fellowship of many scientific societies in Great Britain, America, Italy, and Russia, as well as in Austria and Germany. He was President of the Gynæcological Society of Vienna from its foundation in 1887 to the time of his death. He continued actively

engaged in scientific work to within less than six weeks of his death, for he presided at the meeting of the Gynæcological Society on February 17th, 1891, and showed a woman in whom he had removed *per vaginam* a myomatous uterus. He also showed a woman on whom he had performed Cæsarean section. He was taken ill of bronchial catarrh on the following day, and never rallied.

With his great medical learning, his vast personal experience in midwifery and diseases of women, his clinical skill and his scientific method, he had a great reputation as a teacher, and he gathered round him students and practitioners from almost all civilised countries.

He was equally famed as a writer. The first important literary work in which he engaged was the 'Klinik der Geburtshilfe und Gynaekologie,' published in parts in 1852, 1853, and 1855. Besides writing a number of articles in the 'Klinik' in conjunction with Chiari and Spaeth, he contributed to it from his own pen a paper on A New Method (Colpeurysis) of dilating the Os Uteri in Metrorrhagia, Eclampsia, Cross-births, and Contracted Pelvis, which had appeared in 1851 in the 'Zeitschrift der kaiserlichen königlichen Gesellschaft der Ärzte zu Wien,' a long and important paper on Convulsions from Hysteria, Epilepsy, Cerebral Diseases, Mineral and Vegetable Poisoning, and Uræmic Intoxication, and a still longer paper on the Nature and Treatment of Puerperal Diseases, and on their Relation to certain Zymotic Diseases.

His well-known and highly popular 'Lehrhuch der Geburtshülfe' was published in 1857. Taking a wide view of the subject, and desiring to present to students and practitioners a complete picture of the field of obstetrics, he included in this work not only the anatomy, physiology, and regulation of the female reproductive organs, but also those affections of them which may cause sterility, complicate pregnancy, or interfere with parturition. He found, however, that this arrangement was not entirely satisfactory, and that as a lecturer on diseases of women as well as on midwifery he was involved by it in frequent

repetition. Accordingly, when he published a second edition in 1881, he took the term gynæcology in its etymological sense, and entitling his work, 'Lehrbuch der gesammten Gynaekologie,' he included in it midwifery as well as diseases of women. In fact, he did much more than this, for he fused midwifery and diseases of women into a single and homogeneous theme. In the first division of the work, headed "Physiologie und Diätetik der weiblichen Fortpflanzungsfunctionen," he included the anatomy and physiology of the female reproductive organs, the physiology and management of menstruation, the physiology of impregnation, the physiology and management of pregnancy, the physiology and management of labour, and the physiology and management of lying-in women and of new-born children. In the second division of his work, headed "Pathologie und Therapie der weiblichen Generationsorgane," he treats of diseases of the uterus, of the vagina, and of the vestibule, diseases and anomalies of the contents of the gravid uterus, disproportion and its consequences in labour (contracted pelvis, and ruptures of the genital organs and of the symphysis pubis), obstetric operations, diseases of pregnant women, puerperal fever, diseases of the annexes of the uterus, diseases of the ovaries, disease of the bladder and urethra, and diseases of the mamma. As became the successor of Semmelweis, he shows himself in this work to be a strong as he was an early advocate of thorough antiseptic precautions. The best means of estimating the period of pregnancy is the weight and length of the fœtus as ascertained by bimanual examination. In the Vienna clinic, where this method had been employed for years, errors of fourteen days were rare. As evidence of his delicacy of touch, it may be mentioned that he says that the fœtal head may sometimes be felt through the anterior vaginal wall at the end of the fourth month of pregnancy. In both editions he describes the use of the external hand, both for fixing the uterus and for aiding in the evolution of the fœtus in the operation of version. He had never seen

a death from the vomiting of pregnancy. He believes that under the use of the newer medication the induction of abortion for hyperemesis may be entirely avoided. He himself had not had to resort to it for twenty years. He places great reliance on drugs, and especially on large doses of potassium-bromide. When they fail he pencils the vaginal portion with a solution of nitrate of silver, as recommended by Bennet, and he has invariably found the application successful. He uses a 10 per cent. solution. He is convinced that the absence of albuminuria is no proof of the absence of Bright's disease, for albumen may be entirely absent from the urine in the severest forms of that disease, atrophy and amyloid degeneration. The work is a great storehouse of medical erudition. A single chapter of the first edition, that on Uræmic Eclampsia, was translated by Dr. Matthews Duncan, and after appearing in the 'Edinburgh Medical Journal' was separately published in 1857.

Much of his original work he contributed to medical periodicals. His favourite method of dealing with prolapsus uteri accompanied by hyperplasia of the cervix was for many years amputation of the vaginal portion by the galvano-caustic wire. He describes the operation in three articles in the 'Wiener medizinische Wochenschrift' for 1859. Tracing the after effects of the operation, he found that it is followed as a rule by atrophy of the uterus. This is shown by a remarkable shortening of the organ, and by a thinning of its walls. Sometimes the length of the uterus was diminished by nearly a half. Sufficient notice has not been taken of this important observation. His paper describing the above results is to be found in the 'Zeitschrift der k. k. Gesellschaft der Ärzte in Wien' for 1864, and is entitled "Ueber die fettige Involution des Uterus bei Bindegewebs-Wucherungen (bei chronischem Infarcte) desselben ausserhalb des Puerperiums." He describes six cases. In five the galvano-caustic was used, and in one the écraseur.

He was the first to describe the placental polypus,

and to distinguish it from the mere fibrinous or decidual polypus of Kiwisch. In a paper "Ueber die Nosogenie der Intra-uterinen Placental-Polypen," in the 'Allgemeine Wiener medizinische Zeitung' for 1860, he describes five cases of it with placental structures in all, and two museum-specimens of polypoid tumours in the puerperal uterus.

In a paper "Ueber die Wendung der Querlage durch Palpation während der Schwangerschaft," published in the 'Allgem. Wien. med. Zeit.' for 1862, he states that in the Vienna clinic cross-births had been for many years habitually rectified during pregnancy by external manipulations, so that they were rare in labour.

In the 'Wien. med. Woch.' for 1872 he described two cases of conception without *immissio penis*. In the first there was no trace of a vaginal orifice to be found in the vulva, but it was discovered on careful examination within the urethra. It was a small opening two lines in length. In the second case there was a minute opening in the hymen two lines in width. It was not possible to pass the tip of the finger through the opening.

The following are some of his other important papers, for which a bare mention must suffice:—An article on the Pathogenesis of Hydrorrhœa Gravidarum, in the 'Zeitschrift der k. k. Gesellsch. der Ärzte zu Wien' for 1858; an article on the Induction of Labour by the use of a Catgut Bougie, in the 'Wiener medizinische Wochenschrift' for 1858; three articles on Incarceration of Ovario-vaginal Hernia and its Treatment, with five cases related, in the last-named periodical for 1859; the case of a Mummified Twin Fœtus, bearing on the question of superfœtation, in the 'Zeit. der k. k. Ges. der Ä. zu Wien' for 1860; two articles on Periuterine Hæmatocele and its Treatment, in the same periodical and year; five articles on the Pathogenesis of Retro-uterine Hæmatocele, in the 'Wien. med. Woch.' for 1861; four articles on the Connection between Colloid (Amyloid) Metamorphosis of the Epithelium of the

Kidneys and Eclampsia Gravidarum, in the 'Beilage' or Supplement of the 'Zeitsch. der k. k. Gesellsch. der Ärzte in Wien' for 1864; an article on Arrested Development of the Uterus, Vagina, and Vestibule, in the 'Wien. med. Woch.' for 1874; three articles on Flexions of the Uterus, in that periodical for 1875; and five articles on the Treatment of Metritis, Endometritis, Vaginitis, and Vulvitis, in the same periodical for 1878.

He was a pioneer in hygiene and sanitation as well as in asepsis. In 1864 he published in the 'Zeitsch. der k. k. Gesellsch. der Ärzte in Wien' an elaborate paper on the Ventilation of the University Clinic. He describes the simple, efficient, and inexpensive system of ventilation devised by Dr. Böhm, a military surgeon, which had been in use in the University Clinic for Obstetrics and Gynæcology for four months previously. Calorifers were used to induce currents of fresh air, and advantage was also taken of the natural differences of temperature in the outer and inner air to effect ventilation. His great administrative energy is shown in this paper by his enumeration of no fewer than thirty-one reforms which had been introduced into the obstetrical and gynæcological teaching and the hygienic arrangements of the clinic since he entered on his office in the end of 1856. These reforms included isolation of all cases of puerperal illness in a separate building; the exclusion of all pregnant women from the sick-room, and the appointment of a special attendant to enforce the prohibition; the setting aside of a special room, capable of being heated, for the performance of operations; the abolition of sponges; the substitution of glycerine for lard in making vaginal examinations; the allotment of thermometers to the lying-in wards; ventilation of the soil-pipes; the sealing of the closet-pans by flap apparatus; and the establishment of a clinic for diseases of women.

One of the last articles from his pen was a detailed account of the salubrity of the clinic under his charge,

and of the effects of antiseptics during the twenty-nine years of his administration. It appeared in the 'Wien. med. Woch.' for 1886. The result of the various measures adopted had been that in the years 1881, 1882, 1883, 1884, and 1885 the mortality from puerperal fever had sunk to 0·4, 0·6, 0·2, 0·3, and 0·3 per cent. respectively. The deliveries in those years had been 3481, 2834, 3011, 2993, and 2751 respectively, and the total mortality 1, 1·4, 0·7, 1·2, and 0·9 respectively.

He was a peculiarly neat and dexterous operator, and he wrote from time to time on gynæcological surgery. He wrote four articles on the cure of urinary fistulæ in the 'Wien. med. Woch.' for 1872. He wrote two articles in the same periodical for 1883 on Twelve Cases of Cæsarean Section with Hysterectomy, and in the volume for 1884 five articles on One Hundred Cases of Laparotomy for Tumours of the Genital Organs.

He displayed much mechanical ingenuity in devising and in modifying obstetrical and gynæcological instruments. It is perhaps through some of those instruments that his name is most widely known to practitioners in this country.

In the first part of the 'Klinik der Geburtshilfe und Gynaekologie' of Chiari, Braun, and Spaeth, 1852, several of his instruments are described and figured. *First*, there is his Schlingenträger, or sling-carrier, or Strophebrochos, or Brochopheron, a gutta-percha rod with a running noose of tape for snaring a foot, to facilitate turning in difficult cases of podalic version. *Second*, there is his Nabelschnur-repositorium, or funis-repositor, or Apotheter, first described and figured in Scanzoni's 'Lehrbuch der Geburtshilfe' in 1849, and consisting of a rod of gutta-percha and a loop of ribbon 2 lines in breadth for returning the prolapsed funis. *Third*, there is his Schlüsselhaken, or key-hook, or Decollator, a blunt hook for decapitation. It is a powerful instrument, which has been employed by most obstetricians in Germany and in Italy in preference to a cutting instrument. *Fourth*, there is his Pump-douche

apparatus, or Colpantlon, throwing a continuous stream of water three or four lines in diameter, for inducing premature labour by distending the vagina after the method of Kiwisch. *Fifth,* there is his Colpeurynter, in which the animal bladder of Hüter is replaced by a bag of caoutchouc, and by which it was intended to tampon the vagina, and to dilate the cervical canal for many purposes. He had described his Colpeurynter in 1851 in the 'Zeitsch. der k. k. Gesellsch. der Aerzte zu Wien.'

His modification of the cephalotribe is described and figured in the 'Klinik der Geburtshilfe und Gynaekologie' in 1855. The right handle is shorter than the left, and has a joint in the middle.

His curved trephine, or Pereterion, for perforating the fœtal skull, was described in the 'Klinik' in 1855 also. In Germany, where a trephine is preferred as a perforator, this instrument is frequently employed. In 1864 the late Dr. Charles G. Ritchie gave, at this Society, an account of the operation of cephalotripsy as performed in Vienna by Professor Braun, and exhibited his perforator and cephalotribe.

In 1858 Braun described, in the 'Wiener med. Woch.,' his catgut bougie, a foot long and two to three lines thick, which, in the previous year, he had employed several times to induce premature labour instead of using a catheter or gum-elastic bougie. In 1870, however, he gave up the use of bougies for the purpose, partly because of the length of time required—in one case of his eight days—before labour set in, and partly because he often found endometritis set up from detachment of decidua and placenta, entrance of air and septic infection, as he explains in his 'Lehrbuch der gesammten Gynaekologie.' His latest method was to puncture the membranes with a pointed quill 5 centimetres above the internal os, so that in general the liquor amnii escaped slowly. In thirty-four cases of premature labour induced in this way for contracted pelvis from 1868 to 1878, twenty-nine children, or 85 per cent., were born alive.

In the 'Wien. med. Woch.' for 1863 he describes a uterine sound which he had contrived for the purpose of serving as a hysterophor, dilator, and cervical tampon as well as a probe for investigation. It has a metal stem, with a terminal portion 3 inches long, consisting of laminaria digitata (or of hardened caoutchouc).

At the Obstetrical Society of Berlin in April, 1865, as reported in the 'Monatsschrift für Geburtskunde' for that year, Dr. Fürst, of Franzensbad, exhibited and described a syringe which had been invented by Braun for injecting the cavity of the uterus, chiefly for the treatment of endometritis. The syringe has a glass cylinder which cannot contain more than about twelve drops of liquid. The liquid is discharged into the uterine cavity very slowly, drop by drop, for safety. The syringe is figured by Schroeder and others.

He modified Simpson's cranioclast, making it longer and somewhat thicker, and adding a screw at the lower end of the handles to strengthen the grip. It is an admirable instrument for traction after perforation, but it is less efficient for breaking down the arch of the skull. It is first described and figured in the 'Wiener medizinische Presse' for 1871 by Dr. Karl Rokitansky, jun., Assistant in Braun's Clinic for Midwifery and Gynæcology.

He also slightly modified Simpson's forceps, as he describes in his 'Lehrbuch der gesammten Gynaekologie,' and produced an instrument which is frequently used in Germany. He approximated the points of the blades from one and a quarter inches to slightly less than one inch, and he increased the greatest distance between the blades by about one-seventh of an inch. He increased the pelvic curve. He retained the Smellie or English lock.

In the 'Wien. med. Woch.' for 1886 he described and figured, under the name "Forceps Trimorpha," an axis-traction forceps contrived by him. It is constructed for easy introduction.

Professor Friedrich Wilhelm Scanzoni von Lichtenfels.

Friedrich Wilhelm Scanzoni von Lichtenfels was born on December 21st, 1821. His father, who came from the neighbourhood of Lake Garda in the Italian Tyrol, was a railway official in Prague. His mother was the daughter of Dr. Beutner von Lichtenfels, a medical practitioner in the Bohemian capital. He joined the ancient and once famous University of Prague in 1838, and he took his medical degree there in 1844. He then travelled abroad for a time, and on his return to Prague he was appointed Assistant Obstetric Physician to the Department for Paying Patients in the Imperial Royal Lying-in Hospital. He soon became Assistant to the Chair of Midwifery, and afterwards Physician and Lecturer on Gynæcology to the Imperial Royal General Hospital. From that appointment he was called, in 1850, to succeed Kiwisch as Professor of Obstetrics and of Gynæcology in the University of Würzburg and Director of the Lying-in Institution.

He held these appointments until 1888, when he resigned them in consequence of the impairment of his mental vigour from excessive strain prolonged through many years. He then retired to his estates in Upper Bavaria. He died at his Castle of Zinneberg, at the foot of the Bavarian Alps, on June 12th, 1891, in his seventieth year. He married Fräulein von Höniger, who, with four sons and two daughters, survives him.

He was made a Privy Councillor, and was decorated with many foreign as well as Bavarian orders. In 1863 King Max conferred upon him the surname of von Lichtenfels, carrying an hereditary title of nobility. He was made corresponding or honorary Fellow of innumerable scientific societies.

A man of first-rate intellect, of remarkable diagnostic skill, of brilliant conversational powers, of striking personal appearance, and of peculiarly affable and kindly manners,

he early acquired a great reputation as a practitioner, as a writer, and as a teacher.

As soon as he had settled at Würzburg he found himself fully engaged in private practice. This practice rapidly increased, and it soon became something phenomenal. At the time when patients were flocking to Simpson in Edinburgh from almost all parts of the world, ladies flocked from France, Germany, and Russia to Scanzoni at Würzburg, where they filled the hotels of the town so that new-comers had difficulty in obtaining accommodation. In the summer of 1858 he attended the Empress of Russia in her confinement at St. Petersburg, and was reported to have received a fee of 100,000 roubles, worth at that time about £16,000 sterling, and also a mansion at Würzburg. It is necessary to add, as an explanation of this, that he was detained in Russia four months. In 1863 he again attended the Czarina in her confinement at St. Petersburg.

In 1863 Scanzoni was about to resign his chair, when a numerously signed petition was sent to the King of Bavaria begging that measures might be taken to induce him to remain at Würzburg. An autograph letter from the King requesting him to remain, and allowing him to depute to his assistant Dr. Franqué the theoretical part of his teaching, had the desired effect, and Scanzoni consented to stay.

His literary energy was remarkable, and was conspicuous even through the busiest part of his professional life. Not to dwell on his earlier efforts—as, for example, his rather theoretical paper on the genesis of puerperal fever in 1846, his paper on obstetric auscultation in 1847, his paper on spastic stricture of the os uteri in labour, also in 1847, his article on the pathology of the human ovum in 1849, all published in the 'Vierteljahreschrift für die praktische Heilkunde herausgegeben von der medicinischen Facultät in Prag,' or his article on the ætiology of abortion in the 'Zeitschrift der Wiener Aerzte' for 1847,—he published in 1849, while still in Prague, the first part of

his 'Lehrbuch der Geburtshilfe,' an exhaustive treatise, and not, as might be inferred from its title, a mere handbook. It was completed in 1852. It reached four editions, the last in 1867. This great work, characterised by lucid description, and by the application to obstetrics of the most recent researches in physiology, pathology, and chemistry, at once placed Scanzoni in the foremost rank of obstetricians. It was one of the most popular treatises on the subject in Germany, and it long maintained its place as a standard work. Many interesting features of this treatise might be mentioned. To select two or three points only, he shows that, contrary to the opinion generally held, the fœtus not unfrequently undergoes a complete change of position in the last months of pregnancy, and even during the first part of labour. He attributes shoulder presentations chiefly to abnormal relaxation of the uterine wall, a condition which he always found present in such cases. Even in his first edition he advocates cephalic instead of podalic version in cross-births when circumstances are favourable. He also shows the use of an external hand to aid in performing version.

A smaller work on the same subject, his 'Compendium der Geburtshilfe,' was published in 1854, and reached a second edition in 1861.

In 1852, on completing his 'Lehrbuch,' he published a portion of it as a separate volume, under the title 'Die Geburtshilflichen Operationen.'

In 1853 he commenced the issue of his serial the 'Beiträge zur Geburtskunde und Gynäkologie,' which was continued until 1873, and extended to seven volumes. In addition to editing the 'Beiträge' he contributed to it many articles from his own pen. Some of these were—The Pathology of Uterine Flexions, On Van Huevel's Saw-Forceps, Malformation of the Female Genital Organs, On the Employment of Anæsthetics in Obstetric Practice, On the Pathology of Uterine Polypi, The Secretion of the Mucous Membranes of the Vagina and of the Cervix Uteri—an article written conjointly by Kölliker

and Scanzoni—On the Continuance of Ovulation during Pregnancy, On the Removal of the Vaginal Portion for the Cure of Prolapsus Uteri, and On Marion Sims's Doctrine of the Cause and of the Treatment of Sterility. He is strongly opposed to the mechanical views of Sims.

In the first volume of the 'Beiträge,' published in 1853, he proposed the induction of premature labour of irritating the nipples by suction with a breast-pump, having succeeded in two cases by this method.

In the third volume (1858) he relates a case of death from the injection of carbonic acid into the cervical cavity in a woman pregnant four months. Death took place in one hour and three-quarters. He subsequently published another fatal case, and thus banished from practice the method of provoking labour which he had himself originally proposed in 1856 in the 'Wiener medizinische Wochenschrift,' where he describes a case of the successful induction of premature labour by the passing of carbonic acid into the vagina. He had been induced to try this method by the statement of Brown-Séquard that carbonic acid excites contraction in non-striated muscular fibre.

In the fifth volume (1869) he has an important paper on a case of chronic inversion of the uterus with critical remarks, in which he shows that, contrary to the received opinion, uterine polypi do not cause inversion of the uterus, all the supposed cases—twenty-two in number—being found on examination to be merely submucous fibroids, with a broad, non-pediculated base.

He describes in his various writings some rare obstetric cases, of which the following are the most remarkable. In the first volume of his 'Beiträge' he describes and illustrates by two figures a curious case of pregnancy in a rudimentary uterine horn, with probable migration of the ovum from the right ovary to the left uterine horn. The patient was a woman of thirty-five years of age, who had previously aborted of twins, and had afterwards had three children. In the seventh volume of the

'Beiträge' (1873) he describes one of the few recorded cases of hernia of the gravid uterus. The uterus, as shown by the passing of a bougie on one occasion through the vagina into the deepest part of the hernial tumour, and the ovaries also, were contained in a left inguinal hernia. At the menstrual periods he had found swelling and tenderness of the contents of the sac. Conception took place twice, and was followed by spontaneous abortion in the third month the first time, and by induced abortion at twenty-one weeks the second time. In the 'Allgemeine Wiener medizinische Zeitung' for 1859 he relates a remarkable case in which the right sacro-iliac synchondrosis was ruptured during labour. An abscess of the articulation followed and appeared at Poupart's ligament. In the same periodical for 1864 he described a case of pregnancy without *immissio penis*. The patient, twenty-nine years of age, was four months pregnant when Scanzoni saw her. The orifice in the hymen was barely large enough to admit a surgical probe. The hymen itself was firm, tense, and unyielding.

In this country Scanzoni was best known as a writer on diseases of women.

In 1854–7 he edited and enlarged Kiwisch's 'Klinische Vorträge über specielle Pathologie und Therapie der Krankheiten des weiblichen Geschlechtes.' The work having been left incomplete at the death of Kiwisch, Scanzoni added a third volume, which he published in 1855, on diseases of the mamma, diseases of the bladder and urethra, and special diseases of the nervous system, among which he included puerperal eclampsia and puerperal mania.

In 1857 he published his classical work, the 'Lehrbuch der Krankheiten der weiblichen Sexualorgane.' This work reached a fifth edition in 1875. It was translated into French, and from French into American. It is impossible to reproduce here his excellent descriptions of disease which were drawn from his own experience and not compiled from other writers, but the following points

may be noted. Like Braun, he condemns a restricted specialism, and he argues that obstetrics and gynæcology must reciprocally complete each other. He treats in a masterly way the subject of the fibrinous polypus described by Kiwisch in 1851. He shows that Kiwisch was in error in supposing that such polypi arise from the coagulation of menstrual blood. He further shows that for their production there must previously be a cavity in the uterus and an incomplete abortion—or delivery, as he might have added. He describes the changes produced by flexions in the uterine tissues. He remarks that he has never cured a flexion. He rejects intra-uterine pessaries, after sufficient experience of them, as being both useless and dangerous. In his last edition he expresses his belief in the usefulness of vaginal pessaries in some cases. He employs mostly a pelvic girdle or bandage, with a hypogastric cushion or pad for anteflexion and even for retroflexion. He describes that rare affection, varicose ulcer of the cervix uteri, in the first as well as in the later editions, and he was the first to do so. He describes a simple means devised by himself for determining the thickness or thinness of the pedicle of an intra-uterine polypus. He seized the polypus with forceps and twisted it round, judging of the thickness of the pedicle by the degree of resistance to torsion. He rightly maintains, contrary to Kiwisch and others, the occasional presence of a souffle in ovarian tumours when solid and vascular. As one means of discovering the presence of fluid in ovarian tumours, he auscultates, and at the same time taps on the abdomen with the hand, thus shaking the liquid and producing a characteristic sound. It is shown by Scanzoni in this work that in hæmatometra from atresia of the cervix the walls of the uterus vary greatly in thickness in different cases. It seemed to him that the uterine wall was thick or thin according as the blood had accumulated slowly or rapidly. In one case in which the uterus contained 9 lbs. of blood the walls were as thin as paper, having been mechanically distended, as he sup-

poses, before muscular fibres had time to develop. In another case, in which the symptoms of occlusion had existed for five years, the uterine wall was a third of an inch thick at the upper part. In all his editions he makes the curious and interesting observation that paraplegia may lead to atrophy of the uterus. He had seen several young women who, previously perfectly healthy with regular menstruation, had ceased to menstruate after an attack of paraplegia, and in whom he had found the uterus extremely small. In several he had been able to verify his diagnosis of uterine atrophy by *post-mortem* examination. It is somewhat remarkable—and it speaks well for the obstetric practice of Würzburg and the country round—that in all his editions he says that in his experience the most common cause of vesico-vaginal fistula is cancer of the uterus extending to the vaginal wall. The most frequent cause of urethral caruncles or angiomata he considers to be chronic catarrh of the urethral mucous membrane.

From his enormous experience in gynæcology, and his thorough investigation of cases, he met with numerous examples of rare diseases and of rare conditions.

Thus, in his 'Lehrbuch der Krankheiten der weiblichen Sexualorgane,' he states that in 1849 he was present at the necroscopy of a woman of about sixty years of age, in whom the right Fallopian tube was the seat of a hydrosalpinx the size of a goose's egg, and the left tube was a flaccid sac the size of a hen's egg, with its abdominal end completely closed, but its uterine end patent and about three-fifths of an inch in width. The flaccid sac, which contained a few drachms of sanguineous fluid, was an example, therefore, of the "hydrops tubæ profluens" of Rokitansky.

He describes in his 'Lehrbuch' an example of that extremely rare affection, abscess of the uterus unconnected with pregnancy or with parturition. The case was that of a young woman who was seized with severe metritis after sudden suppression of menstruation. On the twenty-second

day of her illness symptoms of peritonitis supervened. The patient died on the thirty-first day. The cause of death was found to be the rupture of an abscess as large as a goose's egg in the upper part of the body of the uterus.

He relates also in this work a case of menstrual retention from imperforate hymen in a girl of nineteen, in which after two years of severe dysmenorrhœal suffering the hymen suddenly ruptured spontaneously during an attack of uterine colic, and two pounds of fœtid decomposed blood escaped.

In a woman who died in her sixty-first year, and in whom up to the time of her death there had been fairly regular menstrual-like hæmorrhages, he found in the upper part of the cervical canal two mucous polypi the size of a bean. The ovaries were quite atrophic and without any trace of *corpus luteum* or of fresh blood extravasation. Without a *post-mortem* examination a quite misleading inference might have been drawn as to the persistence of menstruation in such a case.

In this treatise he also describes a case as primary cancer of the left tube, but as there was also a cancerous tumour of the right ovary the case is not a conclusive one.

In 1860 in the 'Würzburger medicinische Zeitschrift' he describes a curious case of periodical hydruria in a Russian lady, aged thirty, who came under his care in 1858. She had six living children. The watery discharge, estimated by the patient at from six to eight quarts, appeared every four weeks. Menstruation was very irregular and very scanty. The case had been mistaken for hydrometra, and had been treated by Jobert (de Lamballe) by the application of the actual cautery to the cervix uteri three times. Under the use of the chalybeate waters of Wildungen the hydruria disappeared, and the menstruation became regular.

In the same year and in the same periodical he published a paper on urticaria as a symptom of irritation of the female sexual organs. He described three cases in which urticaria with severe febrile disturbance speedily followed the application of leeches to the cervix uteri. In

one of the cases the patient had suffered on many occasions from urticaria at the menstrual period.

His work 'Die chronische Metritis,' a volume of over 300 pages, published in 1863, is dedicated to the Obstetrical Society of London, of which he had recently been elected an honorary Fellow, and is also addressed to the Society in an introduction or preface. The book was written to set the subject of uterine inflammation on a scientific and pathological basis, and to combat the views advanced by Bennet in this country and by Becquerel in France. This work of Scanzoni's is a great improvement on previous writings on the subject, and has been the foundation on which subsequent writers have built. A novel characteristic of the work is that he treats fully of the histological changes found in chronic metritis. He asserts that the so-called inflammatory affections of the cervix uteri had been made too much of in the preceding twenty years, and that many maladies and many symptoms with which they had no connection had been attributed to them. The pathological changes in the body of the uterus are of far greater significance, he maintains, than the swellings, hypertrophies, granulations, and ulcers of the cervix. He attaches extreme importance to excessive sexual indulgence as a cause of metritis. He considers that one of the chief causes of acute metritis, followed by chronic metritis and lifelong sterility, is sexual excess immediately following marriage, and he especially reprobates the custom of wedding tours, which afford unlimited opportunity for such excess. He has traced many cases to this cause. Henry Bennet had previously expressed similar views in his work on Inflammation of the Uterus. In discussing membranous dysmenorrhœa he states that he had lately noticed the great frequency with which membranous shreds are passed in dysmenorrhœa, although they are not generally discovered until they are specially looked for. He gives an ingenious theoretical explanation of the pathological process. There are two stages, he considers. The first is excessive hyperæmia,

and consequent swelling and loosening of the mucosa. The second stage is a very abundant production of new cells in the deeper strata of the mucosa, by which the more superficial layers are raised and possibly separated in shreds or portions. Further, the swelling of the mucosa in the neighbourhood of the internal os may so impede the escape of the menstrual blood that continuous uterine contraction is induced, and the loosely attached mucous membrane is thus thrown off either entire or piecemeal.

In 1882 he published, in the 'Festschrift zur dritten Saecularfeier der Alma Julia Maximiliana gewidmet von der medicinischen Facultät der Universität Würzburg,' an account of 198 cases of labour with contracted pelvis in the Würzburg clinic since he took charge of it in November, 1850. There had been 10,557 deliveries from that time to November 1st, 1881. The number of contracted pelves was 159, thirty-nine of the patients having been delivered twice. This was Scanzoni's last publication.

In addition to the above he wrote in various periodicals numerous articles on obstetrics and gynæcology.

In gynæcological surgery he was strongly conservative. Thus even in the second edition of his 'Lehrbuch der Krankheiten der weiblichen Sexualorgane,' published in 1859, he refused his sanction to the operation of ovariotomy, and called it a rash surgical venture. As late as 1865 he showed his bias by insisting, in the 'Würzburger medicinische Zeitschrift,' on the inferiority of ovariotomy to other surgical operations as a means of radically curing disease. If one ovary is left, disease may, he argued, be left in it, or may afterwards attack it; while if both ovaries are removed at one operation the danger to life is immense.

Like most obstetricians, he sought to improve the tools with which he worked. His cephalotribe, which is described and figured in the first edition of his 'Lehrbuch der Geburtshilfe,' with its peculiar and ingenious compressing mechanism after Hüter, is allowed to be one of

the best of the Continental forms of the instrument. So far as I know, it introduced the operation of cephalotripsy into this country, for it was the instrument employed by Sir James Simpson in 1861 when he crushed the head and effected delivery by it in two cases. Simpson's and other English cephalotribes were devised after this successful use of Scanzoni's instrument.

Scanzoni's decapitator, or Auchenister, described by him in the 'Würzburger medicinische Zeitschrift' in 1860, was intended by him to obviate the difficulties and risks attending the use of sharp hooks, such as Levret's or Ramsbotham's, and the danger of damaging the uterus by instruments like Braun's key-hook. The Auchenister consists of a blunt hook which is to be passed over the neck of the fœtus, and of a knife-blade which is protected by a sheath, and is worked by a screw so as to cut through the neck.

He somewhat modified Braun's funis-repositor, and he describes and figures the modification in the second edition of his 'Lehrbuch der Geburtshilfe' (1853).

In his 'Lehrbuch der Geburtshilfe' (1853) he describes and figures a douche-apparatus invented by him. It is worked by a pump, and is intended for the induction of labour by injecting water into the vagina after Kiwisch's method.

His modification of Cusco's speculum, with handles which can be doubled up for portability, was shown at our exhibition of instruments in 1866, as was also his cephalotribe.

In the fourth edition of his 'Lehrbuch der Krankheiten der weiblichen Sexualorgane' (1867) he describes and figures a pessary for prolapsus invented by him. It consists of a horn or wooden bulb fixed to a short stem, which is connected by a ball-and-socket joint with a cup which protrudes through the vulva, and is supported by a perinæal bandage. He had previously employed for prolapsus a modification by himself of Roser's apparatus, which he figures and describes in his first edition (1857).

In conclusion it may be remarked that our late honorary Fellow, a professor and practitioner in a provincial Bavarian town of 40,000 inhabitants, left his mark upon almost every obstetrical and gynæcological subject, and was renowned wherever scientific medicine is valued. It is to Scanzoni as much as to any man that gynæcology owes a place among the medical sciences.

Professor Theodor Hugenberger.

Theodor Hugenberger was the son of a pastor in Kurland, one of the three Baltic provinces of Russia, and was born on June 1st, 1821. In 1842 he entered at the University of Dorpat in the adjoining province of Livonia, a university founded by Gustavus Adolphus in 1632, the same year in which he was assassinated at the battle of Lützen. Hugenberger took his degree in medicine in 1847, and was immediately thereafter sent to Kronstadt as a naval surgeon. In the next year he was transferred to an appointment in the Kalinkin Naval Hospital at St. Petersburg, and was at the same time appointed medical attendant of the office for preparing State documents, an establishment in which nearly 1000 persons were employed. While holding these appointments he managed to become an obstetrician, and in 1857 he was ordained Professor of Midwifery and Physician-Accoucheur to the Lying-in and Midwives' Institute of the Grand Duchess Helene Pawlowna in St. Petersburg. In 1872 he was appointed Director of the Imperial Lying-in Establishment of the Moscow Foundling Institution. He remained in the occupation of that post until 1887, when he retired and went to his native place. He died on June 29th, 1891, at the age of seventy, at Majorenhof, a seaside place near Riga, to which he had gone for his health.

He received the title of Privy Councillor, and he was decorated with the Order of the Empress Anna, first class, and with the Order of the Grand Prince Wladimir, second class.

He was an honorary Fellow of many medical societies.

He was a man of the highest character, and was noted as a teacher and as a writer on obstetrical subjects.

He paid several visits to this country. In 1866 he came expressly from Russia to see the Exhibition of Instruments of this Society at the Royal College of Physicians. He showed his own long forceps, which had the peculiarity of being shorter in the curved portion of the blade than any other European forceps exhibited. The blade-bow measured, in the straight, five and a half inches only, while Van Huevel's, which was the longest in the Exhibition, measured ten inches. There was a Japanese forceps shown which measured in the bow of the blade four and three-eighths inches only. In addition to his own forceps, Hugenberger exhibited also a specimen of Levret's, one of Professor Krassowski's, and one of Siebold's, and likewise Etlinger and Hugenberger's cephalotribe.

He frequently took part in the proceedings of the Obstetric Section of the Society of Physicians of St. Petersburg. He wrote numerous monographs, chiefly in the 'St. Petersburger medicinische Zeitschrift,' and he also published many reports of the institutions with which he was connected.

At a meeting of the Obstetric Section of the St. Petersburg Society of Physicians in 1860, as reported in the 'St. Petersburger medicinische Zeitschrift' for 1861, he exhibited the uterus from a remarkable case of spontaneous rupture of that organ in lateral placenta prævia with occipital presentation of the vertex. The accident was followed by death in less than five minutes. The main laceration was eight inches in length, and went through the middle of the placental site. It began below the left Fallopian tube, and extended to the vagina. The uterine tissue was much softened, and some of its muscle-bundles were fatty. The placenta was partly hepatised and partly hyperæmic and decomposed.

In 1861 he gave some interesting particulars at a discussion on placenta prævia in the same Society. The

discussion is reported in the 'St. Petersburger med. Zeitschrift' for 1862. In about 8000 labours at the St. Petersburg Midwives' Institution, from 1845 to 1859 inclusive, there were forty-two cases of placenta prævia. The actual number of labours, as appears afterwards, was 8036. This gives the unusual proportion of 1 in 191. There were sixteen maternal deaths, or 38 *per cent.* There were only eight primiparæ, while many had had ten or more children. He distinguished a lateral, a marginal or partial, and a central or total attachment of the placenta. There were eleven of the first, eighteen of the second, and thirteen of the third variety. The first bleeding occurred from one to five weeks before labour in some, but in most it did not take place until labour had set in, and especially so when the attachment of the placenta was lateral. There were three cross-births, and five breech or footling presentations. The insertion of the funis was velamentous in as many as four.

At the same meeting he related a case of central attachment of the placenta in which the use of the tampon was followed by detachment of the smaller or overlapping portion of the placenta, internal hæmorrhage, and a continuous and ominous discharge of serum. Delivery was effected by turning, but the patient died. As some writers deny that detachment of the placenta ever follows the use of the tampon, this case is a noteworthy one.

Hugenberger's most important monograph was "Das Puerperalfieber im St. Petersburger Hebammeninstitute von 1845 bis 1859," published separately in 1862 from the 'St. Petersburger med. Zeitschrift' of that year. He gives the frequency and mortality, the prevalence according to season, the history of seven outbreaks, the local and general phenomena, prophylaxis, and treatment. The total number of women delivered was 8036, and the total deaths 306, a mortality of 3·81 *per cent.* The number of deaths from puerperal fever was 238, or 2·96 *per cent.* of deliveries. The months of December, January, Feb-

ruary, and April showed nearly twice as high a puerperal fever-death-rate as those of July, August, September, and October. The frequency of puerperal fever and the mortality from it rose in proportion to the duration of labour beyond twenty hours. Obstetric operations increased the frequency of puerperal fever and the mortality. Traumatic injuries of the passages had a like effect, as had also hæmorrhage during or after parturition, and macerated or putrid fœtuses.

In the 'Zeitschrift' for 1863 Hugenberger published an elaborate Report of the Midwives' Institution from 1845 to 1859 inclusive, giving much statistical information, detailed cases, and general remarks.

In the 'Zeitschrift' for 1864 he has a paper on Five Cases of Acute Atrophy of the Liver. He thinks that this disease is much less rare than was supposed by C. Braun, who had met with it once only in 28,000 pregnancies, and by Spaeth, who had seen it twice only in 33,000 pregnancies. The fifth case occurred in the practice of Sir James Simpson in 1863, and was not seen by Hugenberger during life. He witnessed the necroscopy performed by Dr. Alexander Simpson and myself, and he remarks that my microscopic examination of the liver, afterwards, showed complete destruction of the liver-cells. He gives numerous particulars of the case and of the necroscopic appearances. His narrating a case such as this, seen during a holiday tour, is a good illustration of his medical zeal and industry.

In the 'Zeitschrift' for 1865 he published an article on Puerperal Blood-Effusions into the Connective Tissue, and described eleven cases of hæmatoma which had occurred in 14,000 deliveries in the St. Petersburg Midwives' Institution in the course of the previous twenty years. Seven were labial, two perivaginal, and two periuterine. Four of them burst spontaneously. Absorption of the blood, either complete or partial, he had never seen. There were four deaths.

With the date 1868 he published separately, from the

'Zeitschrift' for 1869, an article on a Kyphotic transversely Contracted Pelvis. The spinal curvature was in the lumbar region. He gives the clinical history of his case, a full description of the pelvis, and an excellent statement of the diagnosis of that rather rare variety. He notes the acute angular curvature of the lower part of the spine, the projection forwards and upwards of the symphysis pubis, the increased relative length of the external conjugate, the narrowing of the transverse diameter as shown through the insertion of two or more fingers side by side into the pelvis, and numerous other characteristics, which should be mentioned if time permitted.

He published separately in 1873, from the 'Zeitschrift' of 1872–3, a paper on Premature Rupture of the Membranes ("Zur Lehre von vorzeitigen Blasensprunge"). He traverses the prevailing opinion that premature rupture of the membranes usually delays the labour, and he supports his contention by statistical evidence. He advocates artificial rupture in various circumstances, even in primiparæ, as a valuable means of strengthening the pains and of promoting labour. He himself would rupture the membranes when the os is the breadth of a finger and a half only. He states several contra-indications, however.

In a paper on Rupture of the Vagina during Labour ("Ueber Kolpaporrhexis in der Geburt"), in the 'Zeitschrift' for 1875, he describes an interesting case of kolpaporrhexis antica dextra in a contracted rickety pelvis. In twenty-nine cases of rupture of the vagina collected by him there were ten deaths.

In a Report of the Moscow Lying-in Institution for 1875, separately published in 1876, he is able to announce a total mortality of 1·4 *per cent.* only, and a puerperal fever-mortality of 0·82 *per cent.* only. In that year there were 3420 deliveries and twenty-eight deaths from puerperal fever.

Other papers written by Hugenberger were a case of Osteomalacia ("Ein Fall flexiler Halisterese") with full details in the 'Zeitschrift' for 1872–3; on the Indica-

tions for Cæsarean Section ("Zur Frage der Indicationen zum Kaiserschnitt") in the 'Zeitschrift' for 1873–4; on Stone in the Female Bladder ("Zur Casuistik der Harnblasensteine in der weiblichen Fortpflanzungsperiode") in the 'Zeitschrift' for 1875; on Erysipelas in Childbed ("Ueber Erysipelas in Wochenbette"), with fifteen cases described, in the 'Archiv für Gynaekologie' for 1878; and a Case of Obliquely Ovate Rachitic Hydrorrachitic Pelvis ("Ein Schräg-ovales, rachitisch-hydrorrachitisches Becken") in the 'Archiv für Gynäkologie' for 1879.

Any attempt at a review of the scientific work of the Society during the past year is rendered impossible by the heavy demand made on the time of this meeting through the death of so many distinguished Fellows. The annual volume recording that work will presently be in your hands to speak for itself. It will be a more portly volume than usual, and I venture to express a confident opinion that it will also be found to possess exceptional scientific value. In fact, Dr. Herbert Spencer's admirable and beautifully illustrated paper on "Visceral Hæmorrhages in Stillborn Children" is alone sufficient to justify such an opinion.

In conclusion I have to thank the Honorary Secretaries, and especially Mr. Alban Doran, the Senior Secretary, for the great assistance which they have rendered to me in the discharge of my duties as President. Mr. Doran now retires from the Secretaryship after four years of arduous exertion in the service of the Society, and of rare devotion to its interests. You will not lose his aid, however, as an official of the Society, for you have by your vote to-night elected him one of your Vice-Presidents.

It was moved by Dr. Braxton Hicks, seconded by Dr. Amand Routh, and agreed to unanimously—"That the thanks of the meeting be given to Dr. J. Watt Black for his most interesting address, and that it be printed in the next volume of the 'Transactions.'"

It was moved by Dr. Playfair, seconded by Dr. Herman,

and carried unanimously—"That the thanks of the meeting be given to the retiring Vice-Presidents, Drs. Hayes and Tapson, and Mr. Evan Jones (Aberdare), and to the other retiring members of Council, Mr. Butler-Smythe, Dr. Dakin, Dr. Davson, Dr. Gervis, Dr. W. Lenton Heath, Dr. Nesham (Newcastle-on-Tyne), Mr. G. R. T. Phillips, Dr. J. H. Philpot, and Mr. H. S. Webb (Welwyn)."

A vote of thanks to the retiring Honorary Secretary, Mr. Alban Doran, was proposed by Dr. CHAMPNEYS, who thought that a few additional words were needed on the occasion of the retirement of Mr. Doran. The duties of senior secretary were most onerous, and he doubted if any society whatever had had the good fortune to possess a more unselfish and devoted officer than Mr. Doran. Those who had worked with him appreciated this, especially since the illness of Mr. Savage, which had thrown a quantity of extra and alien work on him; this work he had discharged with the greatest alacrity and cheerfulness. Dr. Champneys' motion was seconded by Dr. M. HANDFIELD-JONES, and carried unanimously.

MARCH 2ND, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—45 Fellows and 6 Visitors.

Murdoch Cameron, M.D. (Glasgow); Arthur Edward Giles, M.B.Lond. (St. John's, S.E.); and Charles James Wright, M.R.C.S. (Leeds), were admitted Fellows of the Society.

Thomas Hyde Hills, L.R.C.P.Lond. (Cambridge); and Ernest Kingscote, M.B., C.M.Edin. (Salisbury), were declared admitted.

The following gentlemen were elected Fellows of the Society:—John William Campbell, B.A., M.B., B.Ch.Cantab.; W. Evelyn St. Lawrence Finny, M.B., M.Ch.Dubl. (Kingston Hill); Augustus Kinsey-Morgan, M.R.C.S. (Bournemouth); George Drummond Robinson, M.B., B.S.Lond.; and Walter Carless Swayne, M.B.Lond. (Clifton).

The following gentlemen were proposed for election:—Alfred Samuel Gubb, M.D.Paris, L.R.C.P.Lond.; and John Harold, L.R.C.P.Lond.

Report of Committee on Dr. Heywood Smith's Specimen of Abscess of the Ovary (*p.* 3).

THE specimen consists of an ovary without tube or any portion of the broad ligament. It measures 10 centimetres

in length, 4 centimetres in breath. The stroma is dense, pale, and includes a few small cysts, probably degenerate Graafian follicles. The greater part, however, is occupied by two almost spherical cavities. One 3 centimetres in diameter, which when fresh contained blood, is lined with a rough corrugated membrane. The other cavity is completely filled by a pale yellow substance; it measures 3·5 centimetres in diameter. The substance filling the cavity leaves a convex surface when cut, and particles of semi-fluid pus ooze from it. It bears the appearance of solidified pus.

Microscopic sections of the yellow substance have been made and examined. In sections stained in Nielsen's solution no evidence of actinomycosis could be detected. In sections stained in fuchsine methyl-blue, no tubercle bacilli could be found. Each section showed a collection of cells with large nuclei, and mostly spherical in form, bearing all the characters of inflammatory cells. The stroma is scanty, and consists of strands of plain muscle-fibres, such as are seen in the stroma of a healthy ovary.

J. Bland Sutton.
Alban Doran.
Heywood Smith.

ACEPHALOUS ACARDIAC FŒTUS.

By M. Handfield-Jones, M.D.

Dr. Handfield-Jones showed a specimen of an acephalous, acardiac fœtus from a twin pregnancy. Labour had come on at the end of the fifth month. The other fœtus was perfectly formed.

TUBO-OVARIAN CYST.

By M. Handfield-Jones, M.D.

Dr. Handfield-Jones also showed a specimen of tubo-ovarian cyst removed three weeks previously. There was no opening between the distended tube and the ovarian cyst, but the latter was filled with pus, and would probably have opened later into the hydrosalpinx which was situated above it. The specimen demonstrated an early stage in the formation of tubo-ovarian cystoma.

Dr. Handfield-Jones referred to a specimen of fibro-sarcoma of the ovary which he had shown at a previous meeting. The amount of cell-growth varied very greatly in different parts of the tumour. Viewing some sections the tumour might have been considered a pure fibroma, but other sections showed the sarcomatous nature markedly.

Mr. Alban Doran always maintained that many tubo-ovarian cysts developed from tubes and ovaries matted together by old inflammation, and subject to cystic degeneration. He had discussed this question in the 'Transactions of the Pathological Society,' vol. xxxviii, 1887, p. 241, and vol. xxxix, 1888, p. 200; also in his remarks on Dr. W. S. A. Griffith's monograph on tubo-ovarian cysts ('Trans. Obstet. Soc.,' vol. xxix, 1887, p. 306).

CANCEROUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY.

By P. Horrocks, M.D.

Dr. Horrocks showed a uterus removed by vaginal hysterectomy on account of malignant disease of the

cervix. He said that the patient was progressing favourably a fortnight after the operation, and that he preferred to tie the broad ligaments with ligatures rather than to use pressure forceps. He exhibited a microscopical section of the growth.

Dr. CHAMPNEYS asked Dr. Horrocks in what respect he found pressure-clamps unsatisfactory. He had found ligatures untrustworthy, and had seen them slip in the hands of others. After they had slipped, it was very difficult to secure the bleeding points.

Dr. CULLINGWORTH said that unfortunately the ligature had its victims as well as the pressure forceps. He mentioned a recent case in which the patient died apparently from hæmorrhage caused by the slipping of one of the ligatures. This was, however, no proof that the ligature method ought to be abandoned, as the accident might be due not to any inherent fault in the method, but to carelessness or inexperience on the part of the operator. The case he had alluded to would be published in due course.

Dr. HORROCKS, in reply, said he had not done any preliminary operation beyond thorough irrigation. As a fact, the cancer was very vascular, and not of the sloughing type. He was unable to tell how far the disease extended before operation, but from the height to which the finger could reach, he had believed it to extend into the cavity of the body of the uterus. This, however, did not seem to be the case. He preferred the ligature because it was more pliable, and lay out of the way during operation, and he preferred to take up a bit at a time; there was thus less risk of slipping. He considered the lower half of the broad ligament more difficult to secure than the upper, because there were more vessels, and at the latter part of the operation the top of the broad ligament could be reached. Pressure forceps in order to hold firmly must be strong, and have good leverage; for this it was necessary they should be long, and hence they were in the way during operation, and slight movements caused great effects, and sometimes tore the broad ligaments or came off partially.

CANCEROUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY.

By Amand Routh, M.D.

Dr. Amand Routh showed a uterus with cancer of the fundus which he had removed fourteen days previously.

The patient, a widowed multipara, had had a watery discharge for nine months and metrorrhagia for three months, and consulted Dr. Rutherfoord at the Samaritan Free Hospital for Women, and he kindly transferred her to Dr. Routh. The patient's uterus was retroverted and enlarged, and there was a small mucous polypus hanging from the cervix. As the polypus seemed insufficient to account for the symptoms, the uterus was rapidly dilated under chloroform. On exploration a cancerous growth was felt, and the uterus was therefore removed entire by vaginal hysterectomy. Both ligatures and clamps were used, and much difficulty was experienced in drawing down the uterus, as the fundus and right broad ligament were extensively adherent to the omentum. The vaginal wound was quite healed on the sixth day, but unfortunately acute mania developed on the ninth day, and was still present when the specimen was shown.

Later.—The mania disappeared on the thirteenth day, but the patient died suddenly (? embolism) when apparently quite convalescent on the sixteenth day.

Dr. Amand Routh, in reply to remarks on Dr. Horrocks's specimens and his own, pointed out that it was not always easy to feel the upper limit of the broad ligament ligatured by silk, though quite easy when clamps were used, so that one could then readily feel how far one might extend the division of the ligaments upwards by the scissors.

It was also an advantage when clamps were used, and removed on second day, that no ligatures had to come away by a slow process of ulceration, which tended to delay complete union.

SECTIONS OF FIBROMA OF THE OVARY.

By H. T. Rutherfoord, M.D.

Dr. Rutherfoord exhibited microscopical sections from a solid fibroma of the ovary. The tumour was a hard, slightly lobulated mass, weighing nearly three pounds. Under the microscope bundles of fibrous tissue were visible, in many places crossing and recrossing each other. Near the pedicle of the tumour the sections showed a somewhat similar structure, but in addition there were present a few rounded or oval nests surrounded by a wavy, shining band. Within this constricting ring was a mass of granular material with no definite structure. These bodies in all probability represented Graafian follicles which had been compressed and destroyed by the new growth of fibrous tissue.

Mr. Alban Doran observed that he had entered fully into the pathology of specimens of the class here exhibited in his memoir "On Myoma and Fibro-myoma of the Uterus and Allied Tumours of the Ovary" ('Transactions,' vol. xxx, 1888). Their malignancy was very slight, indeed they seemed clinically innocent. The patient from whom he had removed in March, 1889, a solid ovarian tumour very similar to the present specimen (see discussion on Dr. Handfield-Jones's "Fibro-sarcoma of the Right Ovary," 'Transactions,' vol. xxxi, 1889, p. 126), was alive and well in November, 1891, as was the woman from whom he removed in May, 1889, a fibroma of the ovarian ligament weighing over sixteen pounds ('British Medical Journal,' vol. i, 1287, and 'Transactions,' vol. xxxi, p. 200).

CASE OF CÆSAREAN SECTION FOR CONTRACTED PELVIS.

By Charles J. Cullingworth, M.D., F.R.C.P.

(Received November 28th, 1891.)

B. M. J—, aged 21, married, was admitted into St. Thomas's Hospital for her first confinement on September 25th, 1891.

Family history.—As regards other members of the family, no definite history of rickets could be obtained; but, of seven brothers and sisters, five died in early childhood.

Previous history.—The patient herself never had any serious illness. At four years of age signs of rickets were noticed; at eleven an operation was performed on the left leg, and iron splints were worn for some time. At seventeen both femora were divided and straightened at the West London Hospital, with satisfactory results.

Sexual history.—The catamenia, which commenced at the age of fourteen, have been regular and of the twenty-eight days type, the flow lasting four days. Patient was married January 1st, 1890. The date of the last menstruation was January 4th to 8th, 1891. On July 17th, 1891, she called to engage the services of her doctor in her approaching confinement. From her dwarfed appearance he suspected a contracted pelvis. Having confirmed his suspicions the next day by a vaginal examination, he recommended the induction of premature labour at the end of the seventh month. Accordingly on August 12th and on several succeeding days attempts were made to induce labour. These proving unsuccessful, a consultation was held with a neighbouring practi-

tioner, at which it was decided that the case was not a suitable one for the induction of premature labour, and that the patient should be advised to go to full term and submit to Cæsarean section or one of its modifications. I saw her at the end of August, and confirmed this view. The patient and her friends acquiesced. Accordingly, she was admitted on September 25th with a view to operation at the end of the first week in October, that is to say, a few days before the date when labour might be expected to take place—unless, of course, labour should commence earlier.

The patient is a fairly well-nourished woman, of pleasant but timid expression. She walks with a waddling gait. Her height is four feet five inches. There is marked lordosis; no angular curvature of spine. There is barely one inch of space between the lower ribs and the iliac crests, the space being less on the left side than on the right, owing to the left side of the pelvis being on a higher level than the right. Both femora present a marked forward and outward curve in their lower halves, the deformity being more marked on the left. The hip-joints are freely moveable. Both tibiæ present a double curve, the convexity of the curve being to the right in their upper and to the left in their lower portions. When the legs are extended, and the malleoli in contact, the knees are separated by an interval of over two inches. The bones of the arms and skull are normal. There is slight beading of the lower ribs.

The measurements of the pelvis are as follows:

Dist. sp. il.	8½ in.
„ cr. il.	9 in.
Conj. ext.	6½ in.
„ diag.	3 in.
Estimated conj. vera . . .	2½—2¼ in.

The sacral promontory is directed towards the left side to such a marked extent that one finger only can be inserted between the projecting sacrum and the left lateral wall of the pelvis. The pelvis is, therefore, both

generally and obliquely contracted, and flattened, the deformity being due to rickets and scoliosis.

The head of the fœtus lies in the right iliac region, the back forwards and to the left; the long axis of the enlarged uterus is oblique, extending from the left hypochondrium to the right iliac region. The fœtal heart-sounds and movements are distinct. The position of the placenta is made out by palpation to be on the right side near the fundus, not extending as far as the median line.* The right ovary can be distinctly felt three inches above and internal to the anterior superior spine of right ilium. Heart and lungs normal. Urine normal.

On October 8th, the bowels having been relieved by enema, and the vagina freely douched with mercuric chloride solution 1 in 5000, the operation of Cæsarean section was performed at two in the afternoon. Labour had not commenced. The patient having been anæsthetised, a mesial incision, five inches in length, was made, commencing one inch above the umbilicus, and extending to within three inches of the pubes. The whole thickness of the abdominal wall was divided to the extent of an inch by the first incision, and the uterus exposed. The deeper structures were then divided to the same extent as the superficial, without any bleeding that called for arrest. The uterus was found rotated on its long axis, its anterior surface being directed to the left, and the right broad ligament and appendages being directed forwards, and lying a little to the right of the abdominal wound. The hand was then introduced, and the position of the uterus rectified with some difficulty on account of its tendency to resume its abnormal position; this was, however, eventually prevented by pressure in the left flank. (In making the incision through the abdominal wall and in rectifying the rotation of the uterus two small wounds were made, in the one case with the point of the knife, in the other with the

* This means that the placenta was situated on the posterior wall, the uterus being shown later to be rotated on its long axis.

finger-nail, in the serous covering of the uterus; these were closed at once with fine silk sutures.) The edges of the abdominal wound were then held in close apposition to the anterior surface of the uterus by the hand of an assistant placed on each side, and a straight incision was made down the anterior surface for a distance of four inches. Hæmorrhage from the divided vessels and sinuses was restrained by digital pressure on the divided surfaces. This incision was carried for a short distance through the thickness of the uterine wall till the membranes bulged into the wound. The membranes were at this moment accidentally ruptured. The deep part of the wound was thereupon rapidly enlarged upwards and downwards, until it, too, measured four inches, the hand quickly introduced, and the child extracted, the left leg being the first part to be seized.

The head emerged slowly, owing to the small size of the uterine wound, which the head filled tightly, but by gentle traction combined with depression of the edges of the incision the extraction was easily accomplished. The cord was clamped and divided, and the child handed over to an assistant. The placenta was then grasped and removed with the membranes, and two fingers were passed through the cervix into the vagina to ensure patency of the canal. The uterus was now brought out of the abdomen and protected by hot sponges. It contracted well, the hæmorrhage being slight and readily restrained by firmly grasping the uterus and pressing the edges of the wound together. There was no protrusion of the intestine, and little or no blood entered the peritoneal cavity. Five minims of solution of ergotine were given hypodermically at this stage. No elastic ligature was used. The deep sutures, ten in number, were then introduced, beginning at the lower angle of the incision, and avoiding the decidua. The material used was silk. After all clots had been removed from the cavity of the uterus these deep sutures were tied in such a manner as slightly to blanch the tissues between them. Eleven

half-deep silk sutures were passed, one midway between each two of the deep sutures, and tied. In passing the lowermost sutures a sinus was punctured ; the oozing from the puncture was arrested by a fine silk suture. The Fallopian tubes were ligatured in their continuity. The peritoneal cavity was cleansed by sponging, but apparently the entrance of blood and liquor amnii had been effectually prevented. The uterus, which had remained well contracted throughout, was now gently kneaded and returned into the abdomen, and the great omentum drawn down over its anterior surface. The edges of the abdominal incision were then approximated by thirteen deep and six superficial silkworm gut sutures, and covered by absorbent pads and wool held in position by a many-tailed flannel bandage. The patient was put back to bed in one hour from the commencement of the operation. Some blood escaped from the vagina in the course of the operation, but the total amount lost was inconsiderable. The infant, a well-formed male, was quite free from lividity, and cried immediately after birth. It measured 20½ inches, and weighed 7 lbs. 7 oz. The placenta measured 8½ inches by 6½ inches, and weighed 1 lb. 6 oz. The cord was 18 inches in length.

The patient rallied well and made a good recovery. During the first few days the temperature and pulse were considerably above normal (as will be seen from the table at the end of the paper), and on two occasions the condition of the lungs and pleura caused some anxiety. After the first week, however, convalescence was uninterrupted. The lochia were from the beginning so scanty that I began to fear I had stitched up the cervical canal. On the morning after the operation, therefore, I passed my fingers into the uterus, which I found empty and well contracted. An intra-uterine douche, administered at the same time, returned only slightly blood-stained.

After this the discharge consisted of little else than clear ropy mucus, of which there was a fair quantity. Flatus passed naturally *per rectum* thirty-six hours after

the operation. On the third day, the abdomen being a good deal distended, an enema was administered with the result of bringing away a large quantity of flatus, and giving great relief. The bowels acted several times on the morning of the fifth day, and more freely in the afternoon after an enema of olive oil. On the seventh day the vaginal douche was discontinued, as there was practically no discharge.

On the ninth day the stitches were removed, and the patient was moved into the general ward, and propped up whilst taking her meals.

On the fifteenth day she was carried to the couch, and three days later she walked.

On October 22nd (fifteenth day) a vaginal examination was made: the uterus was freely moveable, and the degree of involution normal.

The patient left the hospital well on October 31st, twenty-four days after the operation. The wound had united so well that the cicatrix was scarcely perceptible.

Record of temperature, pulse, and respiration.

Date.	Hour.	Temp.	Pulse.	Resp.
Oct. 8th,	3.45 p.m.	96·8°	148	26
	8 p.m.	99·6	136	26
	Midnight	101·2	130	24
,, 9th,	4 a.m.	101·2	132	24
	8 a.m.	101	132	24
	Noon	100·4	140	24
	4 p.m.	101·8	136	26
	8 p.m.	102	126	26
	Midnight	101·8	142	23
,, 10th,	4 a.m.	101·8	140	26
	8 a.m.	101·2	136	26
	Noon	101·4	132	26
	4 p.m.	101·4	134	28
	8 p.m.	102·2	136	32
	Midnight	101·2	140	32
,, 11th,	4 a.m.	99·8	130	26
	8 a.m.	99·2	126	26

Date.	Hour.	Temp.	Pulse.	Resp.
Oct. 11th,	noon	100·6°	132	24
	4 p.m.	100·4	126	22
	8 p.m.	99·6	124	24
	Midnight	98·8	128	20
„ 12th,	4 a.m.	98·8	126	20
	8 a.m.	100·4	128	22
	Noon	102	130	24
	4 p.m.	103	134	23
	8 p.m.	101·6	130	26
	Midnight	103	132	30
„ 13th,	4 a.m.	101·8	132	30
	8 a.m.	99·8	136	28
	Noon	99·4	130	20
	4 p.m.	98	120	22
	8 p.m.	99·6	124	26
	Midnight	98	108	24
„ 14th,	4 a.m.	98·2	112	24
	8 a.m.	98·6	110	24
	Noon	100·6	104	24
	4 p.m.	101	111	24
	8 p.m.	99·8	112	26
	Midnight	100·2	120	26
„ 15th,	4 a.m.	98·2	112	26
	8 a.m.	98·6	111	24
	Noon	99·4	110	24
	4 p.m.	100	115	24
	8 p.m.	100·4	116	26
	Midnight	99·6	110	24
„ 16th,	a.m.	98·4	110	22
	p.m.	99·4	108	22
„ 17th,	a.m.	98·4	96	20
	p.m.	99	108	22
„ 18th,	a.m.	98 8	98	20
	p.m.	99·4	108	20
„ 19th,	a.m.	98·4	100	20
	p.m.	99·2	108	20

For the next four days the highest record of temperature was 99°, after which it was uniformly normal up to the day the patient left the hospital.

In this case all the conditions were favourable to success. The patient was in good health and was under observation for some time before the operation, whilst the

operation itself took place amidst all the advantages of a hospital and at an hour arranged beforehand so that everything was in readiness. The points of chief interest may be very briefly summarised.

The uterus was found rotated on its long axis, so that its right lateral border was directed forwards, almost immediately beneath the abdominal incision. The displacement having been rectified, the uterus was opened *in situ*, obviating the necessity of a long incision and protracted exposure. The elastic ligature was dispensed with, hæmorrhage from the cut surface being held in check, first by digital pressure, and subsequently by keeping the edges of the wound pressed together. The object of this omission was to avoid a possible factor in producing asphyxia of the child and imperfect uterine contraction. Whether as a result of this precaution or not, the child was not asphyxiated in the slightest degree, and the contraction and retraction of the uterus were most satisfactory. The method of suturing adopted was by deep and half-deep silk sutures. The deep sutures were carried through the entire thickness of the uterine wall, merely avoiding the decidua. They were ten in number. Between each two deep sutures a half-deep suture was inserted. This method closed the wound much more securely than when the deep sutures are only passed through two-thirds of the thickness of the uterine wall, and the superficial sutures are limited to the peritoneum. The interior of the uterus was thoroughly emptied of clot, &c., and no antiseptic douching or swabbing was employed. Sterilisation was effected by ligature of each Fallopian tube. The lochial discharge scarcely amounted to more than a stain. A similar scantiness of lochia is not infrequent after ordinary labour where there has been severe post-partum hæmorrhage, but why it occurred in this instance I am at a loss to explain. It has already been stated that it caused me some temporary alarm.

I intended to record, along with this case, another one in which the operation was performed on account of

advanced cancer, but the notes have unfortunately been mislaid. With this exception, all my previous cases have been already published (see 'Trans. Obstet. Soc.,' 1887, p. 252; 'Lancet,' January 4th, 1890; and 'Lancet,' May 17th, 1890). I hope shortly to find the missing notes and make good the omission.

CASE OF CÆSAREAN SECTION.

By JOHN SHAW, M.D.,
OBSTETRIC PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL.

(Received October 7th, 1891.)

THE patient was a primipara, unmarried, and the subject of rickets. Her height was 4 feet 5 inches. The pelvis was strongly rickety, the true conjugate being 2½ inches. Sänger's modification of the Cæsarean section was undertaken before the actual commencement of labour; as judged by the slow and irregular action of the heart, it appeared that the life of the fœtus was in peril.

There was not as much loss of blood as after an average confinement. The sutures of the uterus were of chromic catgut, stout deep interrupted ones and a fine continuous peritoneal one. The ovaries were not removed, but both the Fallopian tubes were crushed through by tying with silkworm gut.

The child was delivered alive, and left the hospital in five weeks strong and healthy.

The mother suffered from septicæmia apparently due to the retention of some shreds of membrane, but recovered after repeatedly washing out the uterine cavity. A slight subsequent attack of parametritis quickly subsided, and the patient left the hospital perfectly well.

C. W—, aged 21, single, came to the out-patient department of the North West London Hospital on December 5th, 1888, complaining that her period had stopped for four months, that she had a very bad cough and felt very weak. The patient was exceedingly rickety, presenting the cha-

racteristic physiognomy, with curvature of the long bones and enlargement of their epiphyses. Her intelligence was decidedly below the normal standard. She was pale and emaciated. Subsequently it was ascertained that she was in a state of extreme poverty, being one of six living and sleeping in a single room. The periods began at seventeen years of age, and continued regular till the time mentioned. On December 12th she was examined, and the womb was found to extend to just above the umbilicus; the fœtal heart-sounds (144 per minute) occasionally intermitted, and were best heard to the right of the umbilicus. The uterine souffle was very distinct in the middle line. The distance between the crests was 8¾ inches, and the anterior superior spines were 7¾ inches apart; the measurement from the upper border of the symphysis pubis to the last lumbar spine was 6 inches, and from its lower border to the tip of the coccyx 3¼ inches.

Professor John Williams kindly saw the patient for me and advised the immediate induction of labour, or, if she should go on to term, Porro's operation in preference to craniotomy. The patient's father resolutely refused to allow of the artificial induction of labour, and as her circumstances were so distressful she was taken into the Hampstead Home Hospital for the month or so preceding her expected confinement. There was considerable difficulty in fixing the probability of this date; the patient's account was that it was four months since she had seen anything, but on carefully questioning her mother it appeared probable that she conceived in the early part of August, a date which would correspond with the measurements of the womb .Doubtless, on the other hand, the prominence of the sacral angle would so far project the enlarged uterus as to give it the appearance of a pregnancy more advanced than really was the case.

For a week before the operation the os uteri was enlarged to about the size of a shilling, and the cervix was thinned out just as if labour was commencing. As the fœtal heart-sounds became more slow and irregular, and

the pregnancy had probably arrived at the full time, Dr. Richard Smith, who kindly saw her for me, advised that the operation should not be delayed, and kindly gave me the support of his presence during its performance on the following day (May 9th, 1889). The operation was performed with all antiseptic precautions except that the spray was not used.

An incision was made through the abdominal walls corresponding to the height of the uterus, and the part of the incision above the navel was at once sutured. The womb was slowly turned out of the abdomen, but in spite of care to avoid this accident some omentum became entangled in the upper sutures, and these in consequence required to be re-introduced. The incision into the uterus was made in the middle line after an india-rubber ligature had been loosely applied around its lower segment. A piece of mackintosh from which a parabolic section had been removed was held tightly around the womb, so as to prevent, as far as possible, any escape of fluids into the peritoneum, a precaution which was distinctly of service, as the meconium was discharged at the moment that the child was being delivered. The uterine wall was incised layer after layer in the manner described by Dr. Champneys, to whose admirable description of a Cæsarean section ('Obst. Soc. Trans.,' vol. xxxi, p. 136) any success which attended this case is largely due. On reaching the sac the membranes were ruptured and the child delivered by the feet.

It was very pale and waxy-looking, perhaps owing to the elastic ligature having been rather too tight for the comfort of its circulation; but under the judicious care of Mr. Clayton it speedily gained consciousness, and by the time that the operation was completed was in a vigorous condition.

The placenta, which was attached to the posterior wall at the upper part, was then removed, and as the membranes also came away very readily, it was believed that the subsequent scouring out of the uterine cavity was un-

necessary—a mistake which endangered the success of the operation. Whilst the sutures were being introduced the uterus was packed with sponges, but these were all removed, and the uterine cavity first douched with a solution of perchloride, and subsequently dried and dusted with iodoform, before any of the knots were tied.

Immediately on removing the placenta the elastic ligature had been tightened, and the amount of blood lost was quite insignificant. The sutures, which were of chromic catgut, were introduced at intervals of half an inch or so, avoiding the uterine mucous membrane by about an eighth of an inch, and emerging about a quarter of an inch or a little more from the line of incision. The sutures were tied from below upwards by the ordinary surgical knot, strengthened with a third turn; by the time that the last one was tied the first, or lowest, had become quite loose, and had to be re-introduced.

The peritoneum beyond the area on each side of the deep sutures was brought into apposition by a continuous suture of fine chromic catgut, starting about three quarters of an inch below the incision and finishing at the same distance above it. The line of suture was then dusted with iodoform, and the womb replaced in the abdomen, where, owing to the obliquity of the uterus, the line of incision became quite hidden by the right abdominal wall.

Till this moment the treatment of the Fallopian tubes had been overlooked; a strong suture of silkworm gut, therefore, was now passed through the left broad ligament near to the uterus, and through the right ligament halfway along the course of the corresponding oviduct, in both cases immediately below the tubes; their continuity was then crushed through by tightly ligaturing. The abdominal wound was closed with silkworm gut; a wood-wool pad, strapping, and a many-tailed bandage completed the dressing.

The after progress of the case was very anxious, and may be summarised somewhat as follows:

The patient suffered very slightly from shock after the operation, and complained but little at any time of pain. For the first twenty-four hours she was not at all sick, but in the afternoon of the day following the operation she vomited once, also twice on the second day, and once on the third, fifth, and sixth days. The lochia ceased on the second day, but on the third, whilst passing a long rectal tube in order to relieve the abdominal distension from which the patient was suffering, some clots were expelled from the vagina. There was never any fœtor of the discharge to be detected.

On the second day after the operation the bowels acted twice, and on the third day six times; for the next twelve days the patient suffered from diarrhœa more or less urgent, on one day (the ninth) having as many as ten motions. The urine was passed naturally from the time of the operation, and was frequently loaded with lithates. There was never any albumen, but with the onset of septic symptoms indican was detected in the urine.

The pulse rose with great persistency from the time of the operation till the fifth day, when it was 150 per minute, but from the time that the uterus was washed out the pulse steadily diminished in frequency. The temperature on the third day rose beyond 103, but fell again on passing the long rectal tube just mentioned, which seemed to have had the effect of pressing out some clot from the uterus or vagina. On the fifth day again the temperature reached 103°, but fell after the irrigation of the uterine cavity. The respiration was usually not above 28 per minute, and the chronic cough from which the patient suffered gave no further trouble, though it has persisted till the present time.

With respect to the treatment adopted, for the first twenty-four hours the patient was fed only by nutrient suppositories, and it is to be observed that during that time she had no sickness. On the second day milk and soda water, one ounce of each, was given every two hours,

and later in the day a little beef-tea and arrowroot. She was not sick till she had taken the beef-tea, about forty hours after the operation. The diarrhœa was regarded as being septic in origin, and appeared to be greatly helped by small enemata of olive oil and turpentine. There was no corroborative evidence, such as sponginess of the gums, to indicate that the absorption of mercury might have played a part in it, though it is to be observed that the dressing was a mercuric wood-wool pad.

On the fifth day it was felt that the patient's condition was so extreme, with a temperature of 103°, a pulse of 150, and the dull, listless aspect of sepsis, that it was decided to wash out the uterine cavity in the hope of relieving her condition. A solution of perchloride was used for the purpose, and shreds of membrane to a considerable extent came away. This irrigation was twice subsequently repeated, each time with some removal of débris.

During convalescence the patient had a very slight attack of parametritis, but, as far as is known, never had the least peritonitis at any period of her illness.

The case is of interest for several reasons, especially on account of the success which attended the irrigation of the uterus five days after its free incision; further, on the score of certain mistakes which, in the author's present judgment, were made in the conduct of the case.

Firstly, in the absence of the actual onset of labour it would have been much wiser to have done Porro's operation, seeing that the os, dilated only to the size of a shilling, did not allow of sufficient drainage of the uterine cavity during the natural involution of the womb. Secondly, in the anxiety to prevent hæmorrhage too much ergot was administered; a dose was given a few hours before the operation, a hypodermic injection of the same immediately after the emptying of the uterus, and twice after the operation suppositories of ergotine were administered. The ergot doubtless accentuated the difficulty in obtaining adequate drainage. In the actual operation the

omission to scour out the uterine cavity was probably a serious error.

That the child was delivered alive appeared largely owing to the instrumentality of Mr. Clayton. Four hours after birth he weighed 5 lbs. 5 oz., and measured 19 inches; on leaving the Hampstead Home Hospital with his mother five weeks later he weighed 6 lbs. 11 oz., and measured 22 inches. If it had not been for the attack of septic fever the mother would most probably have been able to nurse him well. Dr. A. H. Cook gave the anæsthetic, Dr. Wilbe assisted me, and in the after-treatment of the case my friend Dr. Strange gave me valued advice and encouragement.

On July 10th the patient reported herself as feeling quite well; the uterus was situated rather high up, and was quite moveable. In April of this year (1891) she came to the hospital and reported that the catamenia had returned about a year, that they were quite regular, but that she had some pain in the back which continued whilst the period lasted, *i. e.* about three days. Her cough still troubled her, and there was some hernia through the scar below the umbilicus; otherwise she seemed quite well.

A SUCCESSFUL CASE OF CÆSAREAN SECTION.

By A. D. Leith Napier, M.D., M.R.C.P.,
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(Received September 25th, 1891.)

(*Abstract.*)

The patient was a secundipara, having been delivered of a dead child at term on March 15th, 1890. Delivery was very difficult, being effected by craniotomy and embryulcia. She was advised to have premature labour induced at the seventh month if she again became pregnant. She did not come under observation on this occasion until the end of the eighth month. She was a short, squat-built woman, barely four feet ten inches in height, with well-marked rickety curvature of the left tibia and limited movement of the left hip-joint. She had suffered from convulsions in early childhood, and was very delicate as a child, not having been able to walk till she was five years of age. Her pelvis was of the contracted flat variety, with a conjugata vera of $2\frac{5}{8}$ inches.

Cæsarean section (Sänger-Müller, with deep and "half-deep" sero-muscular sutures after Howard Kelly's method) was performed on June 14th, 1891, 280 days from date of last period. Labour had not commenced, nor had any means been adopted to excite pains. The placenta was anteriorly placed. The operation lasted about forty-six minutes, six minutes being occupied from the first incision in emptying the uterus of fœtus, placenta, and membranes, and nearly forty minutes more being required to the end of the operation. Some delay arose on account of the flabby state of the uterus. The sutures were sterilised silk, Nos. 3 and 4, prepared after Barker's

method, *i.e.* boiled in carbolised water. The Fallopian tubes were tied with two silk ligatures, and divided between these by scissors; the ovaries were not removed. There was some post-partum hæmorrhage.

The patient developed a very severe attack of pleuro-pneumonia. She had shortly before coming into the ward suffered from influenza. There was no peritonitis or appearance of general sepsis at any time. Recovery was very good, the patient going home well on the thirty-fourth day after operation. The child, a boy, is alive and well.

Remarks are made.

CLARA S—, aged 29, married, living with her husband, a German, who is a journeyman baker but in poor circumstances, at Clarendon Square, N.W., attended at St. Pancras Dispensary on May 25th, 1891.

She was a short, squarely built woman, barely four feet ten inches in height, and walked lame. Her teeth were very irregular and much decayed. Both tibiæ were curved, the left markedly so. There was limited movement of the left hip-joint. The patient had recently suffered from a severe attack of influenza; her complexion was pale and pasty, and she was generally weak and flabby.

Family history.—Nothing important. Both parents living; the mother is a healthy well-formed woman of fifty-eight, with a favourable obstetric history.

Previous history of patient.—The mother states that, "as a child, Clara was small and weakly. She suffered severely from convulsions as an infant, and up to eighteen months; was an out-patient at University College Hospital for a long time; had weakness and deformity of the limbs, was unable to walk till over five years of age."

Menstrual history.—Catamenia at sixteen, quantity scanty, somewhat irregular, and always painful. Married when twenty-six.

Previous labour.—On March 15th, 1890, attended at term by Dr. Stanley, R. M. O., St. Pancras Dispensary, who, after ineffectual attempts with forceps, sent for me.

The child was ascertained to be dead; the head presented high above the brim. The pains were feeble and valueless, the os was undilatable, and the patient extremely exhausted. The cervix was divided by scissors. Craniotomy was performed, but delivery was found impossible until after very thorough embryulcia had been effected. The headless trunk was eventually delivered, one arm, the lungs, and liver having been previously removed. The delivery was the most difficult I ever accomplished, and occupied three and a half hours. The patient, considering the extreme severity of the case, convalesced well. Dr. Stanley ceased attendance on April 16th.

With a view to being prepared for future possible difficulties I asked Dr. John Williams, the consulting physician-accoucheur of the dispensary, to see the woman after her thorough recovery. This Dr. Williams most kindly did, and after making pelvic measurements, advised that, in event of another pregnancy, labour should be induced at latest at the seventh month.

Present pregnancy.—Last catamenia ended September 7th, 1890, having lasted four days. She felt fœtal movements about February, 1891, but was uncertain of the exact date. June 14th, 1891, 280 days from last day of last period, the patient, in consequence of her having had influenza, and partly because both she and her husband were anxious to have a living child, failed to report herself when at the seventh month of gestation. Both thought it unlikely that a seven months child would live. She attended when eight months pregnant, and readily agreed to undergo the risks of the major operation. She was admitted to the dispensary on June 8th, 1891.

The pelvic measurements were—

Dist. cr. il. (bi-iliac	10 in.
„ sp. il. (bi-spinous	10½ in.
Conj. extern.	6½ in.
„ vera	2⅝ in.

Operation.—On June 14th an enema was given in the morning, and the vagina douched with 1 in 2000 per-

chloride of mercury solution. The abdomen was thoroughly washed with soap and water, and afterwards with the perchloride solution. I was assisted by Dr. Cullingworth of St. Thomas's Hospital (of whose kindness in lending me his valuable aid I am deeply sensible), and by my colleague Mr. Holthouse. Dr. Schacht administered ether.

After being placed on the table, two towels moistened with carbolic solution (1 in 20) were placed over the chest and pelvis; the abdomen was covered with alembroth gauze in which a free slit was made. The external incision was commenced about an inch above the umbilicus, and continued downwards for other four inches. Only one vessel in the abdominal wall required forcipressure. The uterus was rapidly reached, and found to be lying markedly anteverted, the fundus being tilted well forward. The external incision was enlarged one and a half inches, *i. e.* to six and a half inches. The left hand was then inserted behind the uterus, and very easily displaced it outside the abdomen. The placental attachment had been previously determined as being on the anterior wall; the position of the fœtal head lying over the left iliac fossa was also confirmed. An elastic ligature was placed round the cervix. An incision of two inches was made into the uterus down through the lower placental area, and simultaneously the uterus was turned over to the right side; a very moderate gush of blood and liquor amnii escaped. The elastic ligature was tightened, and effectually controlled further hæmorrhage. The uterine incision was enlarged to about three and a half inches in all; it was free of the fundal and lower uterine zones. The left hand was inserted past the placenta; the head of the fœtus was instantly grasped, and the child extracted as rapidly as possible. The cord was clamped by two small pressure forceps, then divided, and the child, a well-developed male, handed to Mr. Harper, who almost immediately had it breathing vigorously. After removal of the fœtus the placenta was found practically detached, and was extracted; the membranes were somewhat closely

adherent anteriorly, but were separated readily by the fingers, and with the exception of one small piece attached in the cervical zone were wholly removed. Two fingers of the left hand were passed through the cervix from the uterus. From the beginning of the abdominal incision to this stage occupied six minutes. The uterus was large, soft, and flabby; the walls seemed œdematous; there was hardly any sign of contraction. Very hot sponges were placed all over the uterus immediately after the extraction of the fœtus, and renewed as they cooled. The uterine cavity was swabbed out with two dry cotton-wool sponges, prepared in 1 in 1000 perchloride solution. There was no intra-uterine hæmorrhage. Barker's sterilised No. 4 silk was used for the deep sutures, No. 3 for the sero-muscular. Bantock's modification of Hagedorn's needles was used for all the uterine stitches, Hagedorn's long needle-holder being employed to introduce the needles. Fourteen deep sutures, as deep as possible, but avoiding the whole thickness of the walls, with ten sero-muscular "half-deep," *i. e.* including one-fourth of the whole thickness, were inserted. When tightened the sutures perfectly coapted the edges of the uterine incision. The elastic tubing was now removed; no external oozing occurred. The uterus was returned to the abdominal cavity. Contractions were excited by gentle friction, and there were some feeble responsive efforts. Both Fallopian tubes were tied, each by two pieces of stout silk, and then divided between the ligatures by scissors; there was no bleeding. The division of the tubes seemed to cause very great depression of the pulse for the moment.

Two small sponges on holders were passed deeply into the pelvis; there was neither blood nor fluid of any kind, so that no further sponging or washing out was deemed necessary. A large flat sponge maintained the intestines within the abdomen, another was placed over the uterus; the former was removed, the omentum drawn down over the uterus, the uterine sponge at the same time with-

drawn and placed below the parietes. Fifteen silkworm gut sutures were introduced through the whole thickness of the walls, including the peritoneum; four superficial silk sutures were afterwards inserted. No strapping was used. Pressure was maintained over the uterus, which now contracted once or twice satisfactorily. The sponge was removed and the abdomen closed. The uterine and abdominal suturing, with the ligation and division of the Fallopian tubes, and the other steps above described, occupied nearly forty minutes, but time was lost through our anxiety not to close the abdomen until we had clear assurance of good uterine contractions. The dressings were only partially applied, as the uterus did not seem to maintain good contraction. A full dose of ergotine (ℳxij) was injected hypodermically. A free gush of hæmorrhage now escaped *per vaginam*. A hot intra-uterine douche of boric acid solution was given. A second gush of blood escaped; the vagina and lower uterine zone were cleared of some clots, and the missing piece of membrane extracted from the uterus digitally. Another very hot douche was then given, and the threatened hæmorrhage ceased. As the patient's pulse was unsatisfactory half a drachm of pure ether and subsequently brandy were injected hypodermically. She was removed to bed, the bandage readjusted, and a further dose of ergotine given. The whole quantity of blood lost was certainly not more, rather less, than with a normal labour. The dressings employed were alembroth gauze and salicylic wool pads. No iodoform was introduced within the uterus, nor was any dusted over the incision.

It was originally intended to douche the uterus from the abdomen with a hot sublimate solution, but as there appeared to be no particular reason for this procedure it was omitted. I question if the subsequent hæmorrhage would have been averted by this. I think the semi-detached small piece of membrane and the somewhat tight elastic ligature, which for the time must have caused partial paralysis of the uterine muscles, had more influ-

ence. There were no difficulties or hitches during the operation, for which I have in great measure to thank the tact and foresight of my able assistants. The child, a male, was 21 inches long, weighed 7 lbs. 3½ oz., and was strong and vigorous.

Subsequent Narration of the Case.

Immediately after operation the temperature was subnormal, and continued so for some hours. Patient looked very weak in the evening; the breathing became fast and difficult; the pulse became very fast during the early morning of June 15th. At 8.15 a.m. the pulse improved, but the respiration was 40 per minute and very laboured; the patient appeared cyanosed about the lips, finger-nails, &c. On auscultation fine râles were heard all over the right lung, and to a less degree over the left.

On the 16th I had the advantage of a consultation with my colleague Dr. Younger, who agreed in the diagnosis of non-septic pleuro-pneumonia.

17th.—There was a sudden development of very severe pain in the interscapular region; this pain extended into the lower axillary and lumbar regions.

On examination bronchial breathing, with fine crepitation towards the end of inspiration and some bronchophony, was heard; this was most marked at the lower right base. Cooing rhonchi heard over left chest.

18th.—The chest dulness somewhat diminished; ægophony noted on previous day almost gone. Mucous râles over front of chest.

21st.—The right base is clearing up; the sounds in the infra-scapular region are defined, but quite at the base nothing can be heard. The improvement after this was continuous, and after June 22nd the temperature, with the exception of a few irregular unimportant jumps, became normal.

As the lung condition was the only real source of anxiety after the first few days, the main responsibility of the

after-treatment fell on Dr. Younger, who was most kind and assiduous in his care of the patient.

Temperature was 102·2° evening after operation ; it then dropped to 99·5°, rose at 5.30 a.m. on 15th to 102·2°. On the 16th and 17th June it remained about 101° to 102° ; but on the evening of the 17th 104·2° was reached ; this was the highest record. On the 18th 103° was recorded, but after this there were no high records ; for the next day or so 102° and slightly upwards was sometimes noted. From June 23rd there was very marked improvement. On the 28th the temperature was absolutely normal, and steadily remained so.

Pulse was not very rapid at first, being 120 immediately after the patient's return to bed, then falling to about 104. In the evening with a rising temperature the pulse increased to 130, and then to 160. In the early morning of the 15th it could not be counted. On the 16th and for the next few days it varied between 120 and 136. On the 17th, at the time of the high temperature, there was a rise to 160, but this only lasted a short time. The pulse was fast throughout ; in fact, after the patient was practically quite well it continued fast. This may be accounted for partly from her being very neurotic, and partly from the post-influenzal condition in which, as has been shown by Dr. James Anderson and others, rapidity of pulse is usual.

Respiration was very rapid and difficult during the time of chest complications.

Lochia.—Slight during first few hours, a small clot passed on 15th. On 17th slight flow, no smell. 19th, rather freer in quantity, character sanguineo-purulent. 23rd, slight show. 27th (the thirteenth day), none. 29th, a slight return, bright-coloured, after action of bowels ; patient was worried about the baby being taken away. July 7th, a slight return—possibly periodic.

Vomiting none. Mild dry retching once afternoon of operation none afterwards.

Pain.—Patient was very neurotic, and inclined to com-

plain of pain on recovering from the anæsthetic. Had a few after-pains on day after operation. There was never any marked abdominal tenderness, nor at any time notable distension.

Micturition.—Catheter only twice necessary. Passed urine naturally the day after operation. There was some incontinence with coughing for two days. A week after she had some vesical tenesmus, and asked to have the catheter passed; this was done, but the bladder found empty.

Bowels.—Flatus passed afternoon of 16th and very freely on 17th (the third day). On the third day the patient had a drachm of Sodæ Potass. Tart. In consequence of a misunderstanding four other doses were given during the day. In the afternoon and evening there were six free actions; further action was checked by an enema of starch and laudanum. On the fourth day there were three loose actions; another astringent enema was given. From this time there was natural action without medicine.

Diet.—A teaspoonful of hot water was given a few hours after operation, and repeated now and again. On the evening after operation an enema of Brand's essence and brandy and water given. 16th, two teaspoonfuls of Brand's essence by the mouth, milk, soda water, champagne, cup of corn-flour. 17th, chicken tea, brandy and soda, iced milk, arrowroot, beef tea and toast. Fifth day, fish diet. Seventh day, chicken. On account of the rapid pulse stimulants were given early—champagne and brandy on day after operation. There was no vomiting.

Medicines.—Carbonate of ammonia, digitalis, and small doses of belladonna for chest troubles. Quinine in gr. v and gr. x doses, sometimes plain, sometimes with hydrobromic acid, was given to control temperature. When the severe pain occurred in the chest morphia and hyoscyamus were given by the mouth. Poultices to the chest and side, with extract of belladonna, were applied when pain was severe. On the eighth day a tonic of cinchona, nux vomica, and sal volatile was prescribed.

Surgical history.—The wound was dressed with alembroth gauze; the dressing was changed on the third day. The bandage had slipped up and caused some superficial irritation and blistering on the back, which occasioned some subsequent trouble and inconvenience.

On the fourth day the abdominal wound looked absolutely healed and healthy.

On the fifth day one, and on the sixth day the other three superficial silk sutures were removed. On June 21st (seventh day) eight deep stitches removed. A strip of Seabury and Johnston's plaister was placed over the abdomen for support.

On the twelfth day the remaining stitches were removed.

A troublesome vesicular eruption, evidently caused by the alembroth gauze and the free perspiration, appeared over the abdomen on the eighth day. By the tenth day many of the vesicles coalesced. The irritability had quite gone by the twelfth day. When the vesicles appeared the alembroth gauze was suspended, and plain gauze with powder of boric acid substituted.

General and obstetric course.—Patient was able to read by the end of the first week. She took her food well and slept well throughout.

On July 2nd (eighteenth day) she was sitting up in bed, and about a week later was allowed to get up. She went home well on July 18th, the thirty-fourth day, and was able to walk from her house to the dispensary on July 20th, bringing her baby with her.

A pelvic examination was made on July 13th, when the uterus felt perfectly normal, was freely moveable; the patient had no pain or tenderness.

Periods.—There was an appearance of bright red blood on July 7th, which lasted seven hours; on August 20th she had a slight flow for thirty-six hours, and on August 31st and September 1st there was a somewhat free discharge.*

* She now menstruates regularly every month without pain, and in very moderate quantity (March, 1892).

The baby was rather fretful, and was sent to friends on June 29th. Since the mother took charge of him he has greatly improved. The husband has been in poor circumstances, and therefore the patient has been worried a good deal.

Remarks.—As I do not believe that one successful Cæsarean section entitles an operator to speak authoritatively, any more than one swallow constitutes a summer, I shall make my observations as brief and *à propos* as possible.

This operation was one of those which might have been avoided by the induction of premature labour at the seventh month; but, considering the patient's personal elements, viz. her having had severe influenza about the time of the possible conservative operation, the extremely severe nature of the first labour, not to add the relatively large size of the fœtus on this occasion, I think it highly improbable that both child and mother would have survived.

A brief reference to my choice of operation. In this instance I preferred Cæsarean section to Porro-Cæsarean because (1) the woman might possibly have borne living children afterwards at the seventh month,* (2) the shock of Porro seems to be greater, (3) there was no antecedent injury to the genital tract and no septic infection; and in this case, with the severe pulmonic complication, I think it was fortunate that an exposed raw surface, with the irritation and strain of the necessary clamp, incident to Porro, were avoided. As it was, the patient had heavy odds against her recovery; with these added I feel convinced she would have succumbed. Further, I venture to hold that as the improved Cæsarean is not only the more conservative but the more scientific operation, it should always be preferred in suitable cases.

As to the *technique* of the operation. If the uterus can be turned outside the abdomen easily, it certainly

* The division of the Fallopian tubes, which of necessity would preclude this, was determined shortly before operation.

expedites the most difficult part of the operation—accurate suturing. I adopted Dr. Howard Kelly's procedure, except that I used my deep sutures rather more liberally than he recommends. His "half-deep" sutures were preferred to superficial sero-serous sutures. "They are introduced after the deep sutures are tied, and sweep through both lips of the closed incision, including not more than one-fourth of the uterine wall." An important practical suggestion made by Dr. M. Cameron at the British Medical Association meeting at Bournemouth in August, 1891, was that the central deep suture should be first tied. Nothing could have answered better than Barker's sterilised silk; and the rapidity with which the clean-piercing Hagedorn's needles can be passed was also a decided satisfaction. Some operators advise that the placenta should be avoided in placenta prævia Cæsarea. In my case it would have been difficult to do so without wounding the fundal or cervical regions, which seems to me a far more serious evil.

That an elastic ligature is an unmixed blessing I doubt. With a thoroughly capable assistant, I think, if I have another case, I would be disposed either to dispense with it, or only tighten it in event of bleeding. I cannot but think that the risk of post-partum bleeding must be increased by the application of a tight ligature round the cervix for half an hour or more.

Ligation and division of the Fallopian tubes, originally suggested by Blundell, of Guy's, about 1820, has been practised by various operators. I conclude that tying the tubes with double ligatures and then cutting cleanly across with scissors is more likely to be satisfactory than trusting to their division by ligature only. The time occupied is practically the same.

As to the time of operating. The modern feeling, with which I sympathise, seems to be to operate at the end of pregnancy, independent of the commencement of labour. It is true that the absence of contractions may be a source of theoretical unquiet; but if emptying the

uterus by abdominal section, stitching up the incision, and the subsequent administration of ergot and application of friction fail to produce contractions, it is something as yet unlearned. After labour pains have begun there may be premature rupture of the amnion, which will unquestionably be a disadvantage. Besides, it is surely better to select a convenient time of day for careful operation, rather than be obliged to operate, perchance with great inconvenience, at any odd time.

Much is now made of rapidity in operating. A recent American writer claims to have performed Porro's section at a very rapid "record" rate. It is urged that Cæsarean section must always occupy more time. This I doubt. Surely the most important part of the operation to do quickly is to empty the uterus so as to obtain rapid contraction and avoid hæmorrhage. In my case this stage was reached in about six minutes; had it not been on account of the atonic, flabby state of the uterus, I think we might have ended the operation in other twenty minutes.

I trust that as experience ripens we may all follow in the footsteps of Leopold of Dresden and Cameron of Glasgow, whose brilliant records are so highly creditable to nineteenth century obstetrics.

Dr. Murdoch Cameron said that the Cæsarean operation having been established as the operation alike of choice and necessity, a few simple directions on the procedure might be useful to those who may at any future time require to perform it.

To begin with, the earlier the operation is carried out the better result will follow. When the patient is seen early enough, she should be prepared by attention to diet and bowels. In any case an enema should be given, and the bladder emptied immediately before operation.

Labour should have set in and the os allowed to dilate slightly. The arrangements are the same as in other abdominal operations, viz. cleansing of the walls, shaving the pubes, and the application of warm water india-rubber bottles round the patient. The instruments required are scalpels, a blunt-pointed bistoury, director, compression forceps, fifteen pairs of Hagedorn's 2½ inch straight needles threaded with antiseptic Chinese twist

(kept in 1—20 carbolic and Spt. Vin. Rect.), catgut sutures, scissors, large, flat, and small round sponges, and ligatures for the umbilical cord. A *serrenœud* should be at hand where rupture is suspected, as hysterectomy may be necessary.

The abdominal incision is in the median line as in ovariotomy. As regards its extent it may be from five to six inches, and will vary in position according to the distension of the abdomen. Thus if the abdomen takes this form (Fig. 1), the incision may be got without extending beyond the umbilicus; but when it is pendulous, thus (Fig. 2):

FIG. 1.

FIG. 2.

the incision must of necessity extend more or less above the umbilicus.

Before opening the uterus the operator should satisfy himself that the uterus is not only in the median line, but that it is not twisted upon its axis, as in such a case you are more likely to cut down upon the placenta.

The uterus having been placed in the median line, the operator should pass in his fingers, and feel if he can detect the Fallopian tube on either side (usually the left), as at times the organ is so much rotated as to present its lateral surface anteriorly. The next point is to open the uterus with as little loss of blood as possible, and this can easily be done by placing an almost straightened Graily Hewitt's pessary flat upon the wall around the point of incision (Fig. 3).

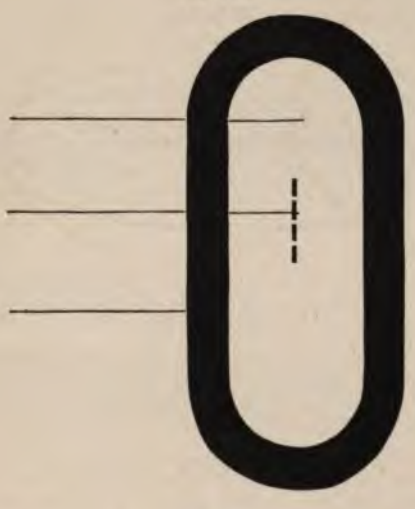
The assistant whilst steadying the uterus can easily place two fingers upon the pessary, and slight pressure will readily prevent bleeding. The incision (always in the median line) should be made without puncturing the membranes.

If the placenta lies in the line of incision it will soon be discovered, but need cause no alarm, as the finger can readily stop any gush of blood from that source.

Whenever the membranes are reached a director is placed within the opening, which is then enlarged with a blunt-pointed bistoury so as to admit the finger. At this point the compress-

ing pessary is removed, and the incision extended upwards and downwards sufficiently to permit the passage of the fœtus. The extension of the incision downwards should be limited, as it is likely to interfere with proper contraction of the uterus. Should the placenta intervene, the incision is quickly made through its thickness and then extended upwards and downwards, cutting at the same time the uterine wall and placenta. Under such circumstances the operator must be expert, so as to prevent loss of blood. Flat sponges prevent the discharge passing into the

FIG. 3.



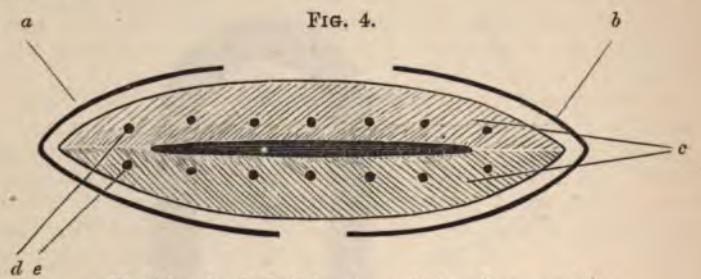
peritoneal cavity. The uterus should not be everted until it is emptied. In every case the incision should be made with the bistoury, and tearing avoided. No ligature round the cervix is required to control bleeding; and besides, the constriction might induce inertia.

There should be no hesitation in making the incision, which is extended upwards and downwards by a single cut from within outwards in each direction. The left hand is then inserted without rupturing the membranes, and the head turned out with the fingers. Should the feet present, they may be seized, and the child extracted without delay.

If the shoulder presents, a hand should be placed upon it to prevent its expulsion, as it adds very much to the difficulty, seeing the uterus immediately contracts whenever any portion of the child's body is allowed to protrude.

The child having been extracted, the assistant places a flat sponge over the upper angle of the incision to prevent the bowels from escaping. The cord having been tied and divided, the placenta is immediately removed with the left hand, great care being taken to secure the removal of all membranes and prevent the entrance of blood into the abdominal cavity. The assistant now everts the uterus from the cavity and pushes a flat sponge behind it. The lips of the wound are next everted, the assistant grasping the upper angle and wall with his right hand, and the lower angle and wall with his left, in the following manner:

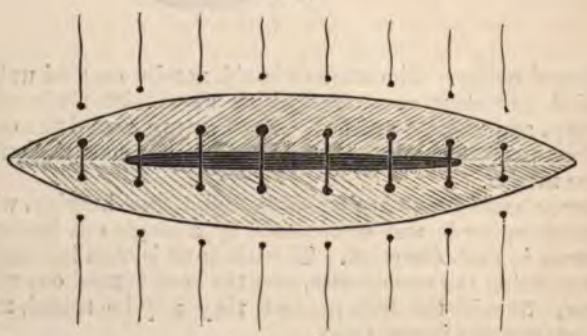
FIG. 4.



a. Right hand. *b*. Left hand. *c*. Cut surfaces everted.
d e. Points where sutures are introduced.

The operator immediately inserts the silk ligatures, beginning at the middle, each suture grasping the outer two-thirds of the uterine wall. Seven or eight sutures should suffice.

FIG. 5.



Sutures in position.

The lips of the wound are carefully sponged as each ligature is tied; this done, the whole organ is enveloped in a large flat

warm sponge and firm compression made, which immediately causes contraction. Should any oozing appear at the needle punctures a second warm sponge should be applied, and very slight pressure will suffice to overcome any tendency to relaxation. Should the peritoneal edges gape at any points, a few superficial catgut sutures should be inserted to bring the surfaces together. The performance of hysterectomy for oozing is bad treatment, as pressure with a warm sponge with both hands never fails to secure contraction.

Greig Smith and others advise the introduction of a drainage-tube through the cervix and vagina, and the leaving it there to act as a drain. Nothing could be worse. Of course it is the procedure of a surgeon, but everyone who has practised midwifery knows that the presence even of a clot in the uterus may lead to serious hæmorrhage.

Such a body as a tube, if not expelled, would induce hæmorrhage, distension of the uterus, and bursting of the incision, with speedy death of the patient. This is no mere theory, but is what has actually taken place where drainage had been resorted to. On no condition should the uterine cavity be washed out or medicated in any way. The less the parts are interfered with the better. Before replacing the uterus in the abdomen it might be desirable to ligature the Fallopian tubes with antiseptic silk, in order to prevent future pregnancy.

This procedure is effective, and leads to no complications nor bad results, nor is menstruation interfered with.

The uterus having been replaced, the cavity is cleansed, and the external wound in the parietes completely closed in the ordinary manner with antiseptic silk. Intermediate silkworm gut sutures give more intimate union, and may be left for some days after the ordinary silk sutures have been removed, say about the tenth day. The wound is dusted with iodoform, a small strip of boracic cotton placed along the wound, two or three strips of plaster applied from side to side to prevent strain on the sutures in case of distension or cough. A pad of wood-wool tissue or sublimated gamgee is applied, and the bandage firmly secured after treatment. The diet for the first three days consists of sips of warm water and milk in increasing quantities. For a few nights half a grain morphine suppository is given. The urine is drawn off for two days every six hours, and on the fourth day a teaspoonful of glycerine in two ounces of soapy water is administered as an enema. The bowels having been moved, the patient is allowed chicken soup, beef tea, &c. The child is put to the breast on the third day.

A list of fifteen cases, with only two deaths, was then shown by Dr. Cameron, and these in no way due to the operation; the first having resulted from injuries from a fall of ten feet before

APRIL 6TH, 1892.

[illegible] WATT BLACK, M.D., President, in the Chair.

[illegible]ent—50 Fellows and 3 Visitors.

[illegible]ks were presented by Dr. Herman, Dr. Braxton [illegible], Mr. Daniel Syme, the Royal Medical and Chirur[illegible] Society, the American Gynæcological Society, the [illegible]ical and Chirurgical Faculty of the State of Mary[illegible], the St. Bartholomew's Hospital Staff, and the [illegible]stminster Hospital Staff.

Sydney Beauchamp, M.B., B.C.Cantab.; George [illegible]rummond Robinson, M.B., B.S.Lond.; and John William Campbell, B.A., M.B., B.Ch.Cantab., were admitted Fellows of the Society.

W. E. St. Lawrence Finny, M.B., M.Ch.Dubl. (Kingston Hill); William Gardner, M.D., C.M.Glas. (Melbourne); George Arthur Hawkins Ambler, F.R.C.S.Ed. (Clifton); and Domingo Montbrun, M.D. (Port of Spain), were declared admitted.

Alfred Samuel Gubb, M.D.Paris, L.R.C.P.Lond.; and John Harold, L.R.C.P.Lond., were elected Fellows of the Society.

The following gentlemen were proposed for election:—Francis Alexander Barton, L.R.C.P.Lond. (Beckenham); and W. Gifford Nash, F.R.C.S. (Bedford).

SPECIMEN OF AXIAL ROTATION OF A RIGHT-SIDED PAROVARIAN CYST WITH ATTACHED RIGHT OVARY AND FALLOPIAN TUBE DISTENDED BY HÆMORRHAGE.

Shown by A. D. Leith Napier, M.D.

M. B—, single, 27, seen in consultation on December 14th, 1891.

Family history.—Paternal syphilis.

Personal history.—Health fairly good, but never strong; has interstitial keratitis. Three years ago fell down a stair, suffered subsequently from abdominal pain; three months ago had acute pain in abdomen with sickness and great prostration; was then in bed over a fortnight. Periods at fifteen, always regular; dysmenorrhœa; last menstruation three weeks before present illness.

Present illness.—On December 11th seized with sudden acute abdominal pain, accompanied by violent and uncontrollable sickness; micturition very painful; obstinate constipation. Diagnosis of ovarian tumour of right side complicated by peritonitis, probably due to twisting of the pedicle. Immediate operation advised.

Operation in Chelsea Hospital for Women on December 15th. On opening the abdomen a highly coloured cyst was disclosed. Adhesions in front and especially on right side of pelvis. On tapping about two pints of thin light red fluid was obtained. When emptied the cyst was partially withdrawn from the abdomen, a hard lobulated mass was felt, which dipped deeply on the pelvis and pushed down the retroverted uterus. Posterior adhesions were separated, and the tumour removed; its size was fully that of a large cocoa-nut. The right Fallopian tube and ovary were firmly attached to the cyst. On the lower part of the cyst-wall was a mass of organised blood which had

undergone some degeneration. The pedicle, which was composed partly of right Fallopian tube and partly of a portion of right broad ligament, was rotated from right to left, and very short. A piece of congested inflamed omentum was ligatured and removed. Such portions of intestine as were visible were reddened in colour, and had the superficial vessels injected. Shreds of inflammatory lymph and several small ante-operation clots of blood were removed on sponging. The patient made an excellent recovery. She reported herself on February 22nd, 1892, when she was menstruating; this was the second period since the operation. She has had no dysmenorrhœa as formerly. Description of specimen (which is now shrunken from spirit and of very dark colour):—A large cyst distinct from and below right ovary. The whole of the specimen was deeply congested, free hæmorrhages had occurred within the wall; in the lower portion the blood had passed beyond the wall. Dr. Shaw-Mackenzie regarded the condition of some parts of the cyst as analogous to commencing moist gangrene. The ovary and Fallopian tube were also sites of hæmorrhage.

In vol. xxii, p. 86, of our 'Transactions,' there is an interesting paper by Mr. Lawson Tait "On axial rotation of ovarian tumours leading to their strangulation and gangrene." In this paper and the subsequent discussion, in which Sir Spencer Wells, Dr. Bantock, Dr. Heywood Smith, and Mr. Doran took part, may be found several pertinent facts and suggestions. Mr. Bland Sutton has also devoted a chapter of his recent work on 'Surgical Diseases of the Ovaries and Fallopian Tubes' to "Axial Rotation." I can add nothing to Mr. Sutton's excellent description, except that I venture to suggest that this specimen, evidently one of acute torsion, seems to illustrate what Mr. Sutton disputes, viz. that axial rotation of the pedicle may cause gangrene. No patient could have been in more imminent peril before operation, no convalescence could have been more rapid or satisfactory.

SPECIMEN OF CYSTIC OVARY AND ENLARGED TUBE. ABDOMINAL SECTION. HISTORY OF PREGNANCY WITHIN TWO MONTHS.

Shown by Dr. A. D. Leith Napier.

S. D—, æt. 36, married fifteen years. Five children. Three abortions. Last pregnancy two years ago.

Complaining of right-sided pelvic pain for about four years prior to admission to hospital. Admitted September 22nd, 1891. Period appeared a month before this, and continued four weeks; ceased three days prior to admission.

Examination per hypogastrium.—Nothing definite, slight tenderness in the right iliac region. *Per vaginam* cervix enlarged, deep erosion of anterior lip. Bimanually a freely moveable cystic swelling about size of a hen's egg to left of uterus.

Operation (October 1st).—The right tube and ovary were matted together and adherent to surrounding tissues. On adhesions being separated the ovary and tube were found to be normal, and were left *in situ*. On the left side a small cystic swelling was discovered; this was brought up, and proved to be a cyst of the left ovary, which with the tube was removed. Absolutely non-febrile convalescence. Left hospital well 26th October.

The specimen is a small multilocular ovarian cyst.

March 19th, 1892.—The patient attended, stating she has had amenorrhœa for over three months, but is feeling very well, and has had no pain since the operation. Examined, pregnancy of three months established.

This case shows (1) the advantage of early operation in cystic ovarian disease; (2) the tolerance of the reproductive organs; (3) the wisdom of leaving a healthy ovary alone.

UTERUS, WITH KIDNEYS AND URETERS, FROM A CASE OF CÆSAREAN SECTION.

Shown by Dr. W. Duncan.

The patient was a secundipara, with well-marked rickets. First child was delivered with much difficulty by embryotomy fifteen months previously.

Pelvic measurements were as follows:

Between anterior superior spines	.	$9\frac{3}{4}$ inches.
Between iliac crests	. . .	$10\frac{3}{4}$,,
External conjugate	. . .	6 ,,
Diagonal conjugate	. . .	3 ,,

Cæsarean section was performed on March 12th, 1892, a few days before the expected onset of labour. The abdomen was opened; the gravid uterus brought out of the abdominal cavity, and enveloped in a towel wrung out of hot mercuric chloride solution. The uterus was next incised in the middle line until the membranes were reached; the incision was then enlarged to admit the hand, and the child (a healthy male) was delivered by seizing the head, and without rupturing the membranes. The placenta and membranes were next carefully removed. The uterus was with a good deal of difficulty made to contract by the insertion of a lump of ice into its cavity (after hot water had failed). It was then sewn up by about eight deep, and the same number of half-deep sutures. The Fallopian tubes were tied in two places, and divided between the ligatures. Then the abdominal wound was sewn up in the usual way. The operation lasted fifty minutes.

The patient on the eighth day was so satisfactory, and the abdominal wound looked so well, that all the stitches were removed, and broad pieces of strapping applied over

than of kidneys. Mr. S. G. Shattock, Pathologist to St. Thomas's Hospital, kindly examined them histologically for me. He writes, "The organs sent consist of the two supra-renal capsules; I have examined only one of them, and it has the ordinary histological structure. I presume the other is its fellow. There are, therefore, no kidneys."

The bladder certainly has the appearance of not having been functionally employed.

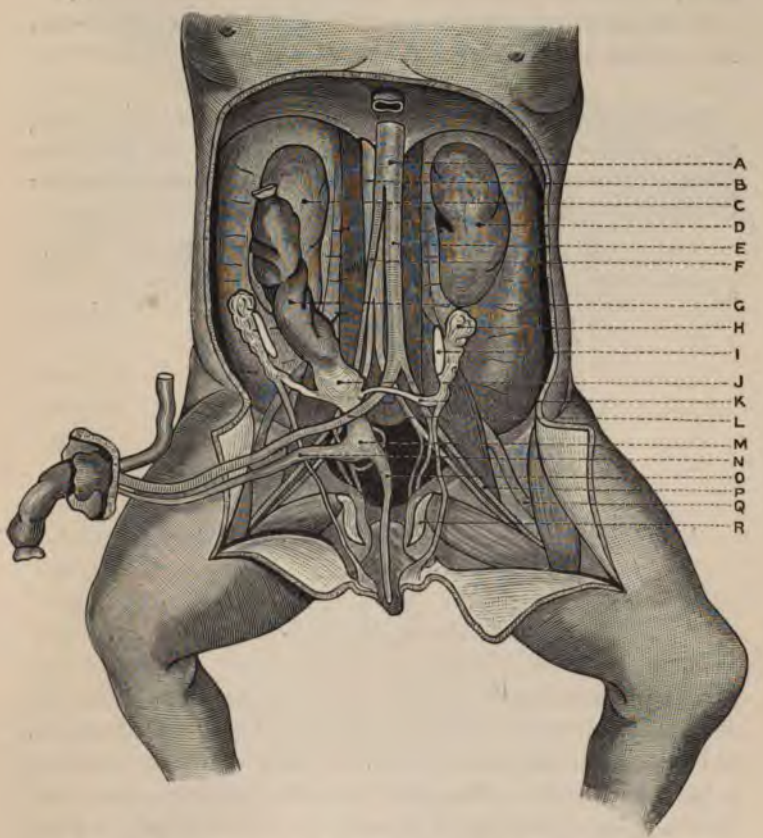
The testicles were high in the abdomen, connected with the epididymis of each side; they had rather the appearance of ovaries than of testicles, as far as size and shape are concerned. Mr. Shattock was good enough to examine part of one of them microscopically, and reports that it has the testicular structure.

The nature of the deformity in this case is unusual. Complete absence of kidneys and ureters is rare. Mayer, of Bonn, reports a case in the 'Zeitschrift für Physiologie,' but in his case there was also absence of the bladder, and the spinal cord was found to be arrested in development at its lower end.

The deformity of the rectum and bladder is not the usual one. In atresia ani vesicalis, when the rectum opens into the bladder, the opening is commonly into the base of an otherwise well-formed bladder. I believe that the present case is explained by the developmental "fault" having occurred very early, probably soon after the fortieth day, at which period the rectum and incipient bladder communicate. I think further, from the appearance of the parts, that the allantois arose quite from the terminal part of the proctodæum, instead of a little way from the end, as is customary; and this, if so, may in a measure account for the condition found.

There is here no communication between rectum and bladder; the latter is empty, and, indeed, there is hardly any real "cavity."

The absence of the right hypogastric artery is noteworthy, but I cannot find that it has any relation to the other deformities.



A. Aorta. B. Vena cava. C. Right supra-renal capsule. D. Left supra-renal capsule. E. Left common iliac artery. F. Right common iliac artery. G. Rectum. H. Epididymis. I. Testis. J. Bladder (base). K. Vas deferens. L. Left hypogastric artery. M. Bladder (apex). N. Urachus. O. Urethra. P. Left external iliac artery. Q. Anterior crural nerve (left). R. Pubes (left side, divided).

I have not been able to find in the compendious works of Förster and of Ahlfeld any account of a similar deformity, nor do I know of any drawing of this condition.

I propose to leave the consideration of the malformation of the feet for a future occasion.

Dr. LEITH NAPIER asked if there was any history of hydramnion. With the absence of renal organs, &c., and the other deformities shown, this was of some clinico-pathological importance.

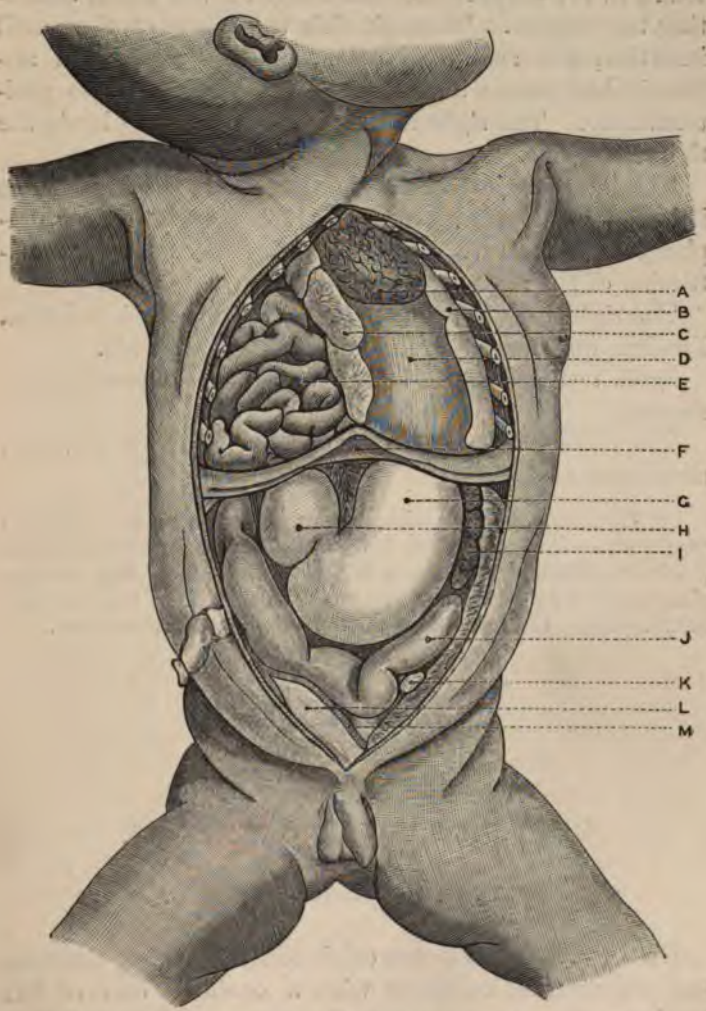
A Committee consisting of Mr. Alban Doran, Drs. Dakin and Giles, was appointed to report on this specimen.

A CASE OF CONGENITAL DIAPHRAGMATIC HERNIA.

By ARTHUR E. GILES, M.B., B.Sc.Lond., &c.

I WAS called out to this case by a midwife in the Maternity District of the General Lying-in Hospital. On my arrival the baby had been born about an hour and a half, and had not breathed properly. There was then just a faint fluttering of the heart. After carrying on artificial respiration for some time I found the heart had stopped. The abdomen was very prominent; the liver could be felt to be enlarged, and there was evidently some ascitic fluid in the peritoneal cavity. I was specially struck with the difficulty of compressing the chest while performing artificial respiration.

Post-mortem examination.—The liver was unusually large, and the abdomen contained about 1½ oz. of clear fluid. The stomach and duodenum were very much dis-



A. Thymus. B. Left lung. C. Right lung, atrophied. D. Heart in pericardium. E. Intestines. F. Diaphragm. G. Stomach. H. Duodenum. I. Spleen. J. Large intestine. K. Left testicle. L. Bladder. M. Left hypogastric artery.

tended, as was also the large intestine. An aperture was found in the diaphragm, posteriorly on the right, admitting two fingers. Through this the whole of the small intestine, the ascending colon, and the vermiform appendix had passed into the thorax. There was no peritoneal sac. The right supra-renal capsule also lay in the thoracic cavity.

The intestine just below the duodenum was narrow, as if it had been pressed upon by the margin of the diaphragmatic aperture, thus accounting for the great distension of the stomach and duodenum.

The right lung was atrophied, especially the lower lobe. The left was normal size, and contained some air.

Both testicles were in the abdomen. Other organs normal.

The child was well developed, weighing 8 lbs., and measuring 22 inches.

Dr. Heywood Smith wished to draw attention to a similar case that he had exhibited before the Society, July 2nd, 1873 ('Obstet. Trans.,' vol. xv, p. 162). The mother was twenty-nine years of age, and that was her fifth child. In that case the hernia was on the left side, and there was no peritoneal sac.

RUPTURED TUBAL GESTATION.

By C. J. Cullingworth, M.D.

Dr. C. J. Cullingworth exhibited the fœtus, placenta, and membranes, together with a decidual cast of the uterine cavity, from a case of ruptured tubal gestation. The patient, a married woman of 37, was admitted to St. Thomas's Hospital, February 23rd, 1892, looking very weak and ill, and presenting the ordinary physical signs of pelvic hæmatocele, the uterus being pushed forwards

DESCRIPTION OF PLATE I,

Illustrating Dr. Cullingworth's Specimen of Ruptured Tubal Gestation.

The fœtus is represented a little under the natural size. Beneath it, and connected with it by the umbilical cord, is the torn and irregular placenta with the fœtal membranes, the latter being turned inside out.

On the left the lower figure, also somewhat reduced in size, represents the ruptured and now empty Fallopian tube, whilst the figure above shows the decidual membrane, *of natural size*, forming a cast of the uterine cavity, in the wall of which a window has been cut to display the inner surface of the membrane.

West Newman chr lith

against the abdominal wall by an ill-defined soft swelling that filled the pelvis and extended two inches higher than the *fundus uteri*. The history was as follows:—The patient was confined of her fourth and last child five years ago. Her last menstrual period ceased November 24th, 1891. From that time she had suffered more or less continuous pain in the lower part of the abdomen, especially on the right side. On the 20th January, 1892, she was suddenly seized, whilst sitting quietly in the house, with a very violent pain in the right iliac region, which compelled her to go to bed. Two hours later she had a somewhat profuse hæmorrhage *per vaginam*. She had two subsequent attacks of hæmorrhage, slighter in character, during the following month, and she was in constant though less severe pain.

On admission (February 23rd) the case was diagnosed as a pelvic hæmatocele, due either to ruptured tubal gestation or a tubal abortion. On March 8th painful uterine contractions came on, and the decidual cast now exhibited was expelled *per vaginam*. The diagnosis was, of course, placed thereby beyond doubt. It was decided, however, for the present to watch the case, being prepared to interfere at any moment if the necessity arose. When the patient had been in the hospital for a month, and the tumour was found not to have diminished, but, if anything, increased in size, it was determined to open the abdomen. This was done on the 21st of March. A mass of dark firm clot, 11½ oz. by weight, was found filling the pelvis, and in the midst of this mass there was found a fœtus 4 inches long, with cord 6½ inches long, placenta, and fœtal membranes. The hæmatocele was roofed in by adherent omentum and intestine. After the pelvis had been cleared, the dilated and ruptured right tube was brought into view and removed. The patient had so far made an uninterrupted recovery.

The size of the fœtus made it evident that either the patient was mistaken as to her dates, and was really eleven or twelve weeks pregnant when the first symptoms

of internal hæmorrhage occurred, or the fœtus had continued to live and grow for three or four weeks notwithstanding the hæmorrhage.

A pencil drawing of the decidual membrane was exhibited along with the specimen.

A CASE OF SQUAMOUS-CELLED CARCINOMA OF THE CERVIX UTERI, IN WHICH THE DISEASE HAD EXTENDED IN AN UPWARD AND NOT IN A DOWNWARD DIRECTION.

By C. J. Cullingworth, M.D.

Dr. Cullingworth showed a uterus recently removed by vaginal hysterectomy for cancer of the cervix, and placed a section of the growth under the microscope.

The case appeared a typical one for a radical operation. The uterus was freely moveable in all directions, no thickening of the lateral connective tissue could be felt; there had been no offensive discharge until the last fortnight; the disease had not spread on to the vaginal wall or even the *portio vaginalis cervicis*, and the patient had not suffered in her general health. The only physical signs of disease were hardness and thickening of the cervix, and a ragged and somewhat ulcerated condition of the lower part of the cervical canal. He had certainly regarded the case as a well-marked example of columnar-celled carcinoma commencing in the cervical glands, infiltrating the whole thickness of the cervix, and showing no tendency to invade the vagina. He was surprised to find, during the operation, that the anterior wall of the cervix crumbled under the merest touch along its whole length, rendering it impossible to obtain the usual plane of cleavage between it and the bladder. At one spot

contiguous to the reflection of the peritoneum, a small rent was made in the bladder during the separation of that viscus. This was of course sutured at once. The object, however, that Dr. Cullingworth had in view in bringing this specimen forward was to point out that although the whole of the cervix was diseased, and the lowest quarter of an inch of the body without any involvement of the mucous membrane on the vaginal side of the os, the disease histologically proved to be a more than usually typical example of squamous-celled carcinoma. It was evident that our views and teaching as to the respective directions of extension of the two varieties of carcinoma met with in the cervix uteri required modification, or, at any rate, that the rule as to the tendency to downward extension of squamous-celled carcinoma was not without exception.

Dr. CHAMPNEYS said that the question whether cancer of the cervix ever extended to the body was hardly crucial. It was generally known that it did so extend sometimes. The point was, at what period did it so extend? The disease extended in all directions, though not with equal rapidity. The most important extension was outwards into the cellular tissue surrounding the cervix. Did it ever extend into the body without extending into this cellular tissue? He was inclined to say no. If this were so it was useless to operate on any case in which cancer of the cervix had extended into the body. In Dr. Cullingworth's case this appeared to be so, for the cervix was all but eaten through. He should be glad to know how long a time elapsed before recurrence took place.

Dr. CULLINGWORTH, in reply to Dr. Champneys, said he had not brought this case forward with a view to discussing the advisability of the operation or its technique, but because of its singular pathological importance. He might, however, say that he did not believe it possible to have ascertained the extent of the disease before operation. Had he suspected its extent he would certainly not have operated. The patient unfortunately died from the effects of the operation, so that he could give no information as to recurrence. In reply to Dr. Lewers he pointed out that the disease had extended into the body, and that the operation of supra-vaginal amputation of the cervix would have been useless. The microscopic specimen on the table had been taken from the affected portion of the body.

ADJOURNED DISCUSSION ON CÆSAREAN SECTION.

Dr. Heywood Smith said in this discussion one of the most important points was the time of operation, and he had no doubt but that if other matters could be arranged, it was far better to wait until labour had set in before operating, as then there would be a far better chance of the uterus properly contracting. Through the courtesy of Dr. Duncan he had the opportunity of witnessing his operation, and the great difficulty in obtaining contraction of the uterus; that gave rise to a considerable loss of blood, and the question arose, having regard to the absence of proper healing both of the abdominal wound and also of that of the uterus, whether the hæmorrhage might not have been due to this cause.

Mr. Bland Sutton related the following details of a case in which he performed Cæsarean section. The patient, twenty-six years of age, was taken in labour with her second child at seven o'clock on the morning of March 24th. At the end of ten or twelve hours, as there was little advance, the practitioner in charge of the case made a careful examination of the pelvis, and found, to his surprise, that the promontory of the sacrum approached the symphysis so closely as to reduce the conjugate diameter of the pelvis to less than an inch and a half. It then became clear that interference was necessary. As the woman was anxious to save the child if possible, it was decided to perform Cæsarean section or Porro's operation instead of craniotomy, and Mr. Sutton was asked to see the patient with the view of performing one or other of these operations.

Assisted by Mr. John Murray and Mr. Daniel Thurston, who was in charge of the case, Mr. Sutton performed Cæsarean section. The uterus was not withdrawn at any time from the abdomen. The sutures used were sterilised silk, and inserted after the manner directed by Sänger. Very little blood was lost, and the operation, which was extremely simple, only occupied thirty minutes, even though it was done in a small private room and under adverse circumstances. The child was dead, and its head had assumed a conical form from the extreme pressure to which it had been subjected during the fourteen hours the woman had been in labour.

Mr. Sutton took the opportunity of sterilising the patient by tying each Fallopian tube near the uterus by a single piece of silk. Tying in two places and dividing between the ligatures is unnecessary, as one ligature will obliterate the lumen of this soft duct.

The after treatment was most skilfully carried out by Mr. Thurston, assisted by Bloomsbury nurses, and she has made a rapid and easy recovery. Mr. Sutton stated that he had always regarded Cæsarean section with horror, as all the cases in which he had seen it performed quickly died. The interesting cases described at the last meeting of the Society had caused him to look more favourably on the operation, and induced him to carry it out in this case instead of a Porro, and the result fully justifies the choice.

Before carrying out the operation the husband's opinion was specifically asked in regard to the sterilisation of the patient. He deliberately assented to the carrying out of this manœuvre. The patient not being a dwarf it became interesting to ascertain the cause of the pelvic narrowing. A subsequent examination of the pelvis seems to indicate that the patient has spondylolisthesis.

Dr. Champneys said that in a subject so large he would only allude to two or three points of practical importance.

The first was the danger of uterine atony. In addition to the choice of time (after the onset of labour), it was important to prevent the uterus from being chilled. The spray was objectionable from this point of view, so was the elastic ligature round the neck of the uterus.

The second point was a difficulty which arose in some cases where labour advanced too far, namely, a sort of hour-glass contraction round the child's neck and above its head, making its extraction difficult. In a recent case this cost the child its life, although it was recognised early, and although the head was promptly and powerfully pushed up by an assistant.

The third point was the best way of securing the broad ligaments if it was desired to excise a piece of the Fallopian tube by way of sterilising the patient. If the tube was tied in two places and the piece cut out, it left a raw and bleeding edge of mesosalpinx. The best way was to tie the tube simply, then to pinch up a loop of tube, to tie this with the ends of the first ligature, and then to cut off the loop of tube. There was no raw or bleeding edge left by this plan.

Dr. William Duncan thought that the Cæsarean section was to be preferred to Porro's operation except in cases where there were uterine tumours which could be removed at the same time, and also when the uterus was affected with cancer. Hitherto he had preferred and practised bringing the uterus outside the abdomen before opening it, considering that by doing so the complete prevention of the passage of blood, amniotic fluid, or meconium into the abdominal cavity more than counterbalanced the risk attending the longer external incision. He narrated a case, however, on which he had performed Cæsarean section since the last meeting of the Society, and which was doing well on the eighth day, but several hours after the stitches were removed, and in spite of plaister having been applied over the abdomen the whole length of the abdominal incision was torn open during a

fit of coughing, the intestines protruded, and death from collapse ensued thirty hours after the accident.

He considered that placing an elastic ligature round the cervix was bad practice, as it tended to cause asphyxia of the child and paralysis of the uterine muscle. He also thought that hour-glass contraction of the uterus could be absolutely prevented by taking care to effect delivery of the child before rupturing the membranes.

Dr. Peter Horrocks thought that if Cæsarean section and Porro's operation had equal mortalities, then the former would be preferable on the ground of its being less of a mutilation. But he thought both operations were good, and that they should be done respectively in suitable cases. Thus he considered that after rupture of the uterus, and certain cases of tumour complicating pregnancy, Porro's should be selected in preference to the other. In regard to Cæsarean section itself, it could not be compared at the present time with cases operated on in the past. For in most cases formerly it was done as a *dernier ressort*, and in all cases without the antiseptic precautions. He had performed the operation by Sänger's method three times, and assisted at a fourth. Two of the former died, the other two recovered; all the children survived. Of those that died, one insisted on getting out of bed on the fifth day, and so injured herself; the other developed parotitis on the left side, which spread to such an extent that tracheotomy had to be performed: she died during the operation, choked. He considered that removing the uterus out of the abdomen before delivery was fraught with danger, and if it could be avoided it was better. The elastic ligature did not prevent uterine contraction, as might be *a priori* supposed. Sänger and Leopold had done it with impunity. In all his own cases the operation had been done before labour had begun. One of the chief points in Sänger's method was bringing the peritoneal surfaces together with numerous fine silk sutures. This occupied much valuable time, and speed was

an antiseptic. In the first case he put a glass drainage-tube through the cervix into the vagina, but it caused hæmorrhage and was soon removed.

He begged to state emphatically that it was not necessary for the uterus to be in a state of active contraction in order that hæmorrhage should be stopped. It was enough if the uterus was retracted, that is, contraction having taking place the fibres then relax, but are not stretched out again. After an ordinary labour the uterus was alternately hard (active contraction) and soft (passive relaxation = retraction), and yet no hæmorrhage took place. Hence it was useless stimulating the uterus further unless hæmorrhage was actually taking place. He showed sections of the Fallopian tubes tied by kangaroo tendon. The patient lived seven days. Injection of the tubes under great pressure seemed to prove complete obliteration of the lumen of the tube. In his next case he intended to operate by Cameron's plan.

Dr. Routh said he wished to speak upon three points which he thought had not been sufficiently insisted upon in the discussion.

1st. To operate upon a woman on whom the Cæsarean section had been once performed successfully was a proceeding almost free from danger, at any rate infinitely less dangerous than the first operation itself. Obstetric records gave many examples of such persons being operated upon three, four, and even seven times, and safely delivered by Cæsarean section. The adhesions contracted between womb and abdominal wall converted the operation into an extra-peritoneal one. It might be an unusual mode of child-bearing, but a safe one, if patients were willing to take the risk. From the tenor of this discussion he believed Cæsarean section would be much more frequently performed than heretofore, and the improvements in abdominal surgery justified one in believing they would be much more successful. If so,

many women would be placed in this comparatively safe condition for Cæsarean section being repeated.

2nd. In the case of a first operation it was very important by every possible means to ascertain if the child was alive or dead, especially if from the history of the case there were grounds to suspect that the child had been long dead, for probably the child might be putrid, and in such cases it was very difficult to prevent poisoning, even with all aseptic measures. Dr. Duncan had instanced such a fatal case. He (Dr. Routh) had also operated on a case in which child and even membranes were putrid, and, in spite of all precautions taken, death followed. Abdominal surgery in cases of putrid abscesses with thin parietes proved amply how often fatal escape of the contents into the peritoneum occurred. In these cases Porro's operation was clearly preferable to Cæsarean section.

3rd. The incision in the uterus should be made in the upper two thirds of the uterus,—that part, in fact, which would contract on removal of the contents of the uterus; and care should be especially taken not to cut down to the cervix, for the very contraction of the uterus would tend to open the cut cervical portions and make a strain on the ligatures, giving rise to hæmorrhage. In one case in which the operation was performed by himself, in which catgut sutures were applied, and in which, he feared, he cut too low down, the catgut ligatures applied gave way, and death followed from hæmorrhage. This case was recorded in the 'Transactions.'

Dr. Braxton Hicks thought it a point worthy of remembrance that formerly it was a question whether any stitches should be put into the uterine wound or not, and many cases that recovered were not sewn up. He considered the recent improvement in the death-rate of Cæsarean section was largely owing to the increase in the number of stitches used. When only six were put in, as was generally the number formerly, if one gave way an

extra strain fell on the remainder, and these generally cut their way through to the edges of the wound; then, if vomiting occurred, the contents of the uterus were extruded into the peritoneum. He expressed his consent to the advantages of Porro's operation in cases of uterine fibroids. In a case he operated on, a large sinus was divided, which passed transversely across the line of incision, the bleeding from which could not be restrained except by under-running, the elastic bandage not having then come into use.

Dr. Leith Napier, in reply, mentioned that before considering the points which had been touched on by the speakers he would like to submit the most recent information procurable on the subject from the two distinguished operators he had referred to at the end of his paper. He had been favoured with a letter from Professor Leopold, of Dresden, dated 23rd March, 1892, in which letter it was stated in reply to categorical inquiries (1) the total of Leopold's Cæsarean sections up to date of his letter was fifty, forty-six being true Cæsarean and four Porro-Cæsarean. (2) Of this number forty-six mothers and all the children were saved. (3) Leopold considers Cæsarean section justified by a conjugate vera of 7 cm. and less, that is 2·75 inches and less. (4) He advises waiting for the commencement of labour before operation. Leopold will shortly publish an account of his cases, which will be anxiously looked for by all operating obstetricians.

Under date April 4th, 1892, he had a letter from Dr. Murdoch Cameron, of Glasgow, relating the accomplishment of his eighteenth Cæsarean section. This patient had twice previously had craniotomy performed. Dr. Cameron's first fifteen cases were published in tabular form in the 'Provincial Medical Journal' for January of this year.

Since the last meeting of the Society Dr. Cameron had three other cases, namely, on March 16th, March 27th,

and, as above stated, April 4th. In none of his cases did the conjugate exceed 2¾. Of the eighteen cases, two, the ninth and eleventh, died. The mortality, therefore, of these two operators, was under 9 per cent. Some cases had been forty-eight hours in labour.

Dr. Napier submitted copies of the temperature and pulse charts of Dr. Cameron's sixteenth and seventeenth cases, from which it would be seen how favourable the recoveries had been.

Speaking next of Dr. Cullingworth's case, he referred to the difficulty and delay experienced in such cases by the uterine obliquity.

There had been very little divergence of opinion among the speakers in the debate. Therefore he might, to abbreviate his remarks, deal with some important points raised generally rather than individually.

As to turning the uterus outside the abdomen before extraction of the child, in some cases this was unnecessary; in others it greatly simplified and expedited the operation. In the case he had recorded the total length of the incision necessary to permit extrusion of the uterus was 6½ inches, and the size of the child—length 21 inches, weight 7¼ lbs.—was certainly over the average. The intestines gave no trouble; no upper abdominal stitches were inserted into the abdominal wound. On the whole, he thought it better in future to adopt the plan of removing the child before extruding the uterus, when its removal could be effected easily, but the suggestion of Müller was never likely to be wholly abandoned.

As to the elastic ligature, Cameron's experience and Dr. Cullingworth's case showed it to be unnecessary. Still, the theoretical dangers of asphyxia of the child and post-partum uterine atony leading to non-contractility were probably exaggerated. Dr. Horrocks's remarks were exceedingly valuable on the use of the ligature. As an insurance it would be advisable, unless reliable assistance was obtainable, to continue using it. If skilled assistants were procurable it would be superfluous.

Then the question as to the period of operation was important. Dr. Cullingworth and the author had operated before the advent of labour. Leopold and Cameron always waited for contractions to commence naturally. There were *pros* and *cons.* either way, and on this point he would reserve his judgment. Harris's cases of uterine tolerance after injury, which Dr. Handfield-Jones had referred to, showed that it was not essential to wait for labour pains.

Dr. Leith Napier then referred to the remarks of some of the individual speakers. He congratulated Mr. Bland Sutton on the happy result of his case. It was the greater triumph for the operation and operator that, so far as could be judged from an obstetric standpoint, it was hardly a suitable or promising case to treat in this way. Had Mr. Sutton regarded the facts of the fœtal death and prolonged parturition less from the surgical standpoint, it was probable he would have adopted either craniotomy or Porro instead of Cæsarean section.

He was glad to find that Dr. Champneys had adopted the suggestion of cutting the tubes across rather than simply ligating them. Dr. Duncan had anticipated his reply to the hypothesis advanced by Dr. Champneys that the severed ends might bleed ; as a matter of observation there was no oozing, and the divided mucous membrane became retracted within its peritoneal covering—the doubling up was unnecessary. Dr. William Duncan's recent case was a most interesting one, but as it had been discussed by others he need only say that possibly the personal condition of the patient had far more to do with the conditions which occurred than some of the speakers seemed to think.

In conclusion he thanked the Fellows for a very interesting discussion.

Dr. Cullingworth, in reply, said that, with regard to waiting in all cases until labour had commenced, he did not agree with Dr. Cameron that this was necessary. The advantages of operating in the daytime, at an hour fixed

beforehand, were obvious, and experience showed that the operation itself was sufficient to excite uterine action, and ensure full contraction and retraction. He had tried both the method of turning out the uterus before delivery, and that of opening the uterus and removing its contents *in situ*, and much preferred the latter, as obviating the necessity of a long abdominal incision and possible exposure and chilling of intestines. The uterus could be brought outside *after* being emptied, if thought desirable, in order to facilitate the suturing of the uterine wound, without any elongation of the parietal incision. He had learnt much from the recorded experience of Dr. Cameron, and felt grateful to him for having done so much towards simplifying and shortening the operation. He regarded as distinct improvement the abandonment of the elastic ligature, and the arrest of hæmorrhage from divided sinuses by direct pressure on the cut surfaces. Another decided advance was the method of suturing by a moderate number of deep and half-deep sutures, doing away with the wearisome peritoneal suturing until recently thought to be so essential.

He would recommend any of the Fellows who were interested in the subject, or who were expecting to be called upon to operate, to refer to a very useful little paper by Dr. Howard Kelly, of the Johns Hopkins Hospital, Baltimore, in the 'Amer. Journ. of Obstetrics' for May, 1891, entitled "The Steps of the Cæsarean Section —the do's and the don't's." It contained many valuable hints, and might with advantage be consulted side by side with Dr. Cameron's and other papers on the subject.

He regarded Porro's operation as a most valuable resource in exceptional cases, and thought that increased experience would enable us to formulate the conditions in which the one or the other operation was to be preferred.

MAY 4TH, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—36 Fellows and 8 Visitors.

A book was presented by the American Association of Obstetricians and Gynæcologists; and a Vaginal Speculum was presented to the Museum by Dr. Coromilas.

Alfred Samuel Gubb, M.D.Paris; and John Harold, L.R.C.P.Lond., were admitted Fellows of the Society.

John Morgan Evans, L.R.C.P.Lond. (Llandrindod Wells); and Thomas Wilson, M.D.Lond. (Wolverhampton), were declared admitted.

Francis Alexander Barton, B.A.Cantab., L.R.C.P.Lond. (Beckenham); and W. Gifford Nash, F.R.C.S. (Bedford), were elected Fellows of the Society.

PAPILLOMATOUS CYST OF BOTH OVARIES CAUSING PROFUSE ASCITIC EFFUSION; REMOVAL; RECOVERY.

By ALBAN DORAN, F.R.C.S.

MRS. E. W—, aged 22, married four years, was admitted into my ward at the Samaritan Hospital on April

16th, 1892. Dr. P. M. O'Brien of Reading, who had attended the case, informed me that abdominal swelling was first noticed in September, 1891. Pregnancy was suspected, but the catamenia continued. A cystic, circumscribed tumour was detected after a time, the abdomen afterwards became greatly swollen, and dropsy of the labia set in and was relieved by acupuncture.

On admission the patient appeared very sickly; she had been unable to lie down on her back or on either side for nearly three months. The abdominal distension was extreme, the girth at the umbilicus exceeding 47 inches. The distance from the ensiform cartilage to the umbilicus was 11 inches; from the umbilicus to the symphysis pubis 10 inches. The skin was glossy, and very œdematous below the umbilicus. Fluctuation was universal. All parts of the abdomen were dull on percussion except the right flank. The posterior vaginal wall was prolapsed, being full of fluid. The small uterus (the patient had never been pregnant) was almost fixed. The secretion of urine was scanty; during the week before operation the greatest amount passed in twenty-four hours was 14 oz. It was phosphatic and not albuminous. The legs were very œdematous. The temperature was normal; the pulse 108, very small volume.

There was no evidence nor any family history of disease of the heart, liver, or kidneys.

On April 23rd I operated, with the assistance of my colleague Mr. Butler-Smythe. I made a short incision ending several inches above the symphysis, nevertheless the cellular tissue between the peritoneum and bladder was exposed. Forty-five pints of dark reddish-brown fluid escaped. As it rushed out of the abdomen it pushed out of the edges of the abdominal wound a thick white membrane which looked like cyst-wall. I detached some of it from its connections, but then saw, deep in the abdomen, what looked like a secondary cyst. I explored it and found that it was surrounded by intestine. The membrane at the abdominal wound was greatly thickened

peritoneum. The true cyst projected a few inches above the pelvic brim; masses of papillomata sprang from its outer surface. I passed my hand down the back of the cyst, and found that it extended deeply into the pelvis. I feared that it was irremovable, but tapped it anteriorly, meaning to fix it to the parietes if it would not allow of complete excision. Two pints of fluid escaped, and the cyst came out easily; it proved to be the right ovary. I then found another cyst covered with papillæ; it was the left ovary. The two tumours touched each other behind the small uterus. There were no adhesions and no papillomatous growths on the intestines. The pedicles required very careful ligature. The peritoneum was thoroughly flushed with hot water. Then the detached piece of peritoneum around the abdominal wound was trimmed away and the sutures applied, the flushing repeated, a drainage-tube inserted, and the patient put to bed. The drainage-tube was removed nineteen hours after the operation; during the first few hours several ounces of clear serum came away.

All the bad symptoms due to the ascites rapidly disappeared. In the fourth twenty-four hours after operation 95 oz. of urine were passed. Twelve days later the patient appeared in excellent health.

She remained in good health in June, 1892.

The right tumour weighed seven ounces when empty; two pints of clear, glairy ovarian fluid were emptied out of it in the course of the operation. It formed a single large cyst, which burrowed into the broad ligament and came in contact with the Fallopian tube. The ostium and canal of the tube were quite open; its walls were much thickened, and it was elongated to the extent of three or four inches. On the inner wall of the cysts were several papillomatous growths. Larger growths of the same kind sprang from the outer wall. There was no evidence that these outer growths had originated from the inner wall, subsequently perforating the cyst. There were several minute papillomatous growths clearly deve-

loping on the surface of the cyst. Other papillomatous bodies were developing interstitially, apparently in secondary cysts.

The left tumour weighed ten ounces when complete, and was made up of three lobes. It had partly burrowed into the mesosalpinx, but was separated from the tube by a spherical, thin-walled broad ligament cyst one inch in diameter. The tube was not elongated as on the right side, and its ostium and canal were patulous. The ovarian cyst was covered with large papillomata, one of which had clearly perforated the cyst-wall from within outwards. A semilunar space surrounded about half of its root ; the free edge of the cyst-wall bounding the space was quite smooth. The space allowed of free communication between the cavity of the cyst and that of the peritoneum.

The extreme ascitic effusion was an interesting feature in this case. It was the natural result of the irritation of papillomatous growths. The resonance in the right flank, even when the patient lay on that side, was remarkable. The manner in which the bladder was drawn up high out of the pelvis by mere distension of the abdominal walls will serve as a warning to operators in similar cases. I have known the bladder to be opened by a careful operator. The tumours had nothing to do with the displacement of the bladder.

The alteration in the peritoneum and the manner in which the stream of fluid pushed it out, so that it looked like a cyst-wall, was interesting. I have frequently seen the peritoneum stripped off in this manner. As long as only a little is detached no harm is done, but the separated part must be trimmed away, else it may slough. A space bare of peritoneum is no disadvantage, as Kelterborn has shown. In this case no bare space was left, as the peritoneum, stretched by the ascitic fluid, could easily be made to meet along the line of the abdominal wound.

Lastly, a case of this kind always demands operation.

Great ascitic effusion and œdema of the extremities must not allow the surgeon to deny the patient the advantages of an exploration at least. The papillomata must never be torn off, else hæmorrhage which cannot be controlled will certainly follow. The operator must calmly ascertain if the structure from which the papillomata grow be removable. The peritoneum should always be flushed out after removal of cysts of this kind to ensure the thorough clearing away of broken-off fragments of the papillomatous growths. Sponges are, I find, insufficient for the purpose.

Dr. W. Duncan asked Mr. Doran if he could explain why papillomatous growths were supposed to disappear after the great bulk of the tumour had been removed. He had recently operated on a case in which there was a papillomatous growth the size of an orange in one ovary; this was adherent to intestine, which latter was studded with secondary growths, so that under the circumstances he decided not to proceed with the operation.

Dr. Cullingworth said Mr. Doran had not overrated the importance of his case from a practical point of view. It showed that no case of rapidly forming ascites, with unknown or suspected malignant origin, should be allowed to terminate without an exploratory operation. For though papillomatous growths from the ovary are very irritating to the peritoneum, they are only locally infective, so that when they are removed the patients are cured. He had had two cases very similar to that of Mr. Doran within the last two years. The first was the wife of a medical man, from whom he removed fifteen pints of ascitic fluid through an incision made in the abdominal wall for the double purpose of removal of the fluid and exploration. The proliferating and adherent masses of disease on both sides of the pelvis alarmed him, and he closed the abdomen. The patient was remarkably benefited by the evacuation of the fluid, and remained free from any re-accumulation. She went through much anxiety and fatigue during the next six months, and at the end of that time found the pelvic pain was becoming so severe that she appealed for something more to be done. He reopened the abdomen, attacked the pelvic growths more boldly, and cured the patient, who is now, eighteen months after the operation, strong and well. Three weeks after the first exploratory operation in this case another case presented itself, this time in the hospital. Seventeen pints of ascitic fluid were removed through an abdominal incision, and the pelvis explored. So confusing and adherent a mass of cystic and papillomatous growth existed in the pelvis that nothing was attempted in the way of removal.

The patient remained well for six months, then the fluid began to re-accumulate, and three months later she came to see if anything more could be done. Encouraged by the result in the other case, he here also reopened the abdomen, removed the disease, and cured the patient. He saw her only a day or two ago. She was in blooming health, and it was now sixteen months since the operation. Dr. W. Duncan had stated that he knew of no good evidence as to the disappearance of diffuse papilloma of the peritoneum after removal of the original disease, the focus of infection. He (Dr. Cullingworth) thought he could supply him with at least one authenticated example. He had already published the case, and would now only allude to it in the briefest manner. Six years ago he operated upon a Salford factory girl of twenty-two years of age, who had a large abdominal tumour which had formed with suspicious rapidity. Symptoms had become urgent a fortnight before the operation, and the medical man in attendance had tapped the tumour. On opening the abdomen papillomatous growth and the gelatinous contents of the cyst were seen protruding through the aperture made by the trocar, and already the peritoneum in the neighbourhood was abundantly studded with papillomatous growth. The omentum was enormously thickened, and was thickly covered with new growth. The case looked desperate. The tumour was removed with difficulty; no attempt was made to deal with the omentum or other infected parts. It was explained to the friends how it was scarcely possible to hope for ultimate recovery. To his (Dr .Cullingworth's) utter surprise the patient got well without a bad symptom, and twelve months afterwards was at her work in perfect health.

Mr. Alban Doran replied that pathology could not explain why papillomata diffused over the serous coat of the intestines sometimes disappeared after the original ovarian tumour was removed, and sometimes, on the other hand, grew all the quicker. He had seen both results follow ovariotomy. In exploring the surgeon must make up his mind, and be careful not to break down papillomata that he cannot remove. After extirpating a papillomatous ovary it is safer to flush the peritoneum with hot water, as that is the surest way to dislodge broken fragments of papilloma. Simple opening of the abdomen, the ascitic fluid being allowed to escape, seems to benefit the patient when the papillomata are irremovable.

UNRUPTURED TUBAL GESTATION, WITH APOPLEXY OF THE OVUM.

By C. J. Cullingworth, M.D.

Dr. Cullingworth exhibited a Fallopian tube, removed by abdominal section on the 8th of April from a patient whose case was diagnosed as one of unruptured tubal gestation. The patient, a healthy woman aged 32, had only once previously been pregnant, namely, eight years ago, when she aborted at the fourth month. She menstruated regularly up to the 12th November, 1891, when her last period occurred. She subsequently believed herself to be pregnant. At the beginning of February she was standing upon a table cleaning windows, when she slipped, and saved herself by jumping from the table. Two days afterwards a slight hæmorrhage commenced. This increased in quantity and continued for two months, when the patient was admitted into St. Thomas's, having applied entirely on account of the continuous hæmorrhage. She had never had any pain, and there was no interference with the general health. On examination a large, soft, elastic, well-defined swelling was felt to occupy the right posterior quarter of the pelvis, pushing the uterus a little to the left of the middle line, and moving to a certain extent independently of it. The vaginal roof was not depressed, but a strongly pulsating blood-vessel could be felt running along it on the right side. After a little hesitation the sound was passed, and the uterine canal found to be 2¾ inches long and empty. The diagnosis was tubal gestation with apoplectic ovum, or, much more improbably, an ovarian cyst with recent or incomplete abortion.

At the operation the right tube was found to be enor-

mously distended with blood-clot and adherent to the surrounding parts. The uterus was small and pushed over to the left. When the tube had been separated and brought to the surface it was observed to have attached to it, at its distal extremity, a fœtus $2\frac{3}{4}$ inches long, tightly enclosed in a sac, through which the denuded bones of one leg and part of one arm were protruding. There were only one or two insignificant clots in the peritoneal cavity. Although the preparation had not yet been disturbed, it seemed certain that the placenta and a portion of the membranes, continuous with that covering the pelvis, were still within the tube amongst the blood-clot. The fœtal sac was of a yellowish colour and was lying beneath the tube, adherent to the rectum and floor of Douglas's pouch. The covering of both it and the distended tube was extremely thin, and much care was needed during the separation to preserve it intact. In lifting the tube to the surface its wall gave way on the anterior surface, causing a rent which disclosed the clot within.

The right ovary was cut across in removing the tube. The left appendages were adherent but otherwise normal, and were not disturbed.

The patient made an uninterrupted recovery, and was now well and awaiting her discharge from the hospital.

As the specimen had not yet been dissected, he could only express a provisional opinion as to its nature. It seemed, however, probable that at the time of the accident an incomplete tubal abortion had occurred, the fœtus escaping enveloped in its membrane or membranes, leaving behind it within the tube the rest of the membranes, the placenta, and the greater part of the effused blood.

The entire absence of pain both before and after the accident was a remarkable feature in the case.

A water-colour drawing of the fresh specimen by Mr. R. E. Holding was exhibited.

Mr. ALBAN DORAN laid stress upon the careful exploration of all cases of extra-uterine gestation and of hæmatosalpinx where the ostium of the tube was dilated. Hæmatosalpinx seemed to imply gestation in the tube rather than any inflammatory change.

Dr. W. DUNCAN thought the specimen one of extreme interest, and suggested that a sub-committee be appointed to report upon it.

Dr. RUTHERFOORD wished to know if the specimen might not be one of tubal gestation in which rupture of the tube, but not of the overlying peritoneum, had taken place, so that the fœtus had escaped and was lying outside the tube but beneath the peritoneum.

Dr. CULLINGWORTH, in reply, said that although it would, of course, spoil his specimen for museum purposes, he would not raise any objection to the appointment of a committee to examine and report upon it, especially as doubts had recently been expressed by a distinguished authority as to the occurrence of tubal abortions, and it was possible that this specimen might furnish important evidence on the question.

Report on Dr. Cullingworth's Specimen of Tubal Gestation.

The specimen consists of an oval body, 9 centimetres long by 6½ in vertical measurement. From one extremity hangs a piece of tissue 3 centimetres long, evidently the uterine end of the Fallopian tube. The greater part of the swelling as seen on section consists of a mass of pale red clot, which shows distinct lamination. This clot is invested by the wall of the Fallopian tube. From the other or outer extremity projects a cyst, 4½ centimetres in vertical measurement and broader below than above. To the upper and outer part of the cyst-wall adheres a fœtus, of which the parts are very distinct. The ribs and vertebral column are plainly visible, and the extremities of one side project through the cyst-wall; the lower part of cyst was occupied by blood-clot. Between the cyst and the clot in the Fallopian tube is a more or less circular smooth-edged aperture, 1½ centimetres in

diameter, which, from the appearance of the surrounding parts, appears to be a constriction of the tube. Immediately below and internal to the fœtal cyst is the ovary. The fœtal cyst is, therefore, part of the tube. Our opinion is that the specimen consists of a gravid tube of which the larger and inner compartment contains the placenta infiltrated with blood-clot, and the smaller or outer cavity is occupied by the fœtus, which is compressed against its periphery by blood-clot. There is no proof that the tube has undergone rupture.

J. Bland Sutton.
Chas. J. Cullingworth.
Alban Doran.
William Duncan, *Convener.*

A FŒTUS OF FOUR MONTHS' DEVELOPMENT CONTAINED WITHIN AN UNRUPTURED AMNIAL SAC WITH PLACENTA PRÆVIA ATTACHED.

By A. D. Leith Napier, M.D.

The patient from whom this was obtained was a young married woman, aged 24; she was married the beginning of August, 1890, and delivered of her first child March 22nd, 1891. Convalescence was tedious. She had never felt very well since. She had seen no period since confinement.

On February 29th, 1892, she had a discharge of blood which lasted twelve hours. About this time occasional irregular sickness occurred.

On March 29th she had a profuse flow of blood, which was thought by the patient to be menstrual. This continued without ceasing until the date of her admission to St. Pancras Dispensary on April 25th. She was then very

anæmic, felt and looked ill. There was a centrally situated abdominal swelling reaching fully halfway to umbilicus.

On April 27th she was examined and found to be pregnant. The cervix admitted the points of two fingers. The placenta presented, this was detached and the membranes left intact; pains supervened, and in little over three hours the specimen shown was expelled.

The condition was a somewhat unusual one, illustrating the precise relations of the placenta in such cases, and also other evident features of interest.

A LARGE MULTIPLE FIBRO-MYOMA, REMOVED ON APRIL 29TH BY HYSTERECTOMY.

By A. D. LEITH NAPIER, M.D.

THIS was one of the first, if not the first large tumour exhibited at the Society in which the intra-peritoneal method of securing the pedicle had been employed. The patient was 45 years of age, married twenty-one years; had one child stillborn at term a year after marriage; two abortions, one eighteen years ago, the other nine years ago.

She had noticed the tumour for over five years; within the last eighteen months, it had become much larger. Operation was imperative on account of exceedingly profuse and frequently recurrent hæmorrhages. As many as 100 to 120 napkins had been required on several occasions. Medicinal treatment and rest had been tried patiently without improvement. The patient's general condition was not favourable; she had chronic bronchitis with emphysema and a dilated heart.

The operation was done in the usual manner, the vessels being secured, the tumour then cut off, and the peritoneum stitched over the pedicle formed by the cervix. The tumour

weighed about three pounds. One ovary was cystic, and both tubes, especially the right, distended with serum. The patient did well until May 2nd, when symptoms of rapid pulse and abdominal distension without pain supervened. There was no high temperature. She died on May 3rd. A post-mortem examination made twelve hours after death showed that the cause was acute intestinal obstruction. A loop of ileum had become doubled on itself, and was adherent to the peritoneum covering the right side of the stump. There was no trace of peritonitis or sign of hæmorrhage.

The result was most regrettable, as the condition of parts found warranted the belief that the operation but for this unfortunate obstruction would have been successful. All the alleged evils of intra-peritoneal treatment of the stump had been avoided. The case was a most testing one, and the intra-peritoneal method had stood the test well. We at times learned more from actual failures than unexplained successes, and he therefore thought the specimen worthy of being shown.

Dr. Heywood Smith thought that perhaps, since the uterine stump was not sutured with Lembert's sutures, the line of suture not being so smooth as when the serous membrane was turned in, might have led to the adhesion taking place in the bowel. In the method of peritoneal suture that he had lately advocated the resulting line of suture presented quite a smooth surface, and he considered where this was done, and the wound healed at once, there would be little chance of such an accident happening.

SIX CASES OF CRANIOTOMY, WITH REMARKS ON THE RELATIVE POSITION OF CRANIOTOMY AND CÆSAREAN SECTION.

By Arthur H. N. Lewers, M.D.Lond., M.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

(Received May 11th, 1891.)

(*Abstract.*)

The author records six cases of craniotomy for pelvic contraction.

Four of the cases (Nos. 1, 2, 3, and 4) may be described as neglected cases, having been many hours in labour before the operation was undertaken, and in two (Nos. 1 and 4) delivery was only effected with great difficulty. All the cases recovered.

Reference is made to Dr. Donald's paper, "Methods of Craniotomy," in which eighteen cases of craniotomy, all of which also recovered, are recorded. Taking these cases in conjunction with his own, the author argues that the mortality of craniotomy is extremely small, and therefore concludes that while Cæsarean section, in spite of all modern improvements, still remains a very dangerous operation, it should not be undertaken as a matter of election, but restricted entirely or almost entirely to cases where no other method of delivery is possible.

A table of the author's cases is appended.

There is much difference of opinion at the present time as to the indications for performing craniotomy or cephalotripsy rather than Cæsarean section or Porro's operation in certain cases of pelvic contraction.

Although, as all know, the Cæsarean section has within the last few years been greatly improved, and its mortality

in consequence diminished, it cannot be denied that it still remains a very dangerous operation.

Notwithstanding this there is a perceptible tendency to enlarge the field of the operation, and to advance it from the position of an operation of necessity to that of one of election.

While the operation remains a very dangerous one this seems to be a change of very doubtful expediency, for obviously the advantage gained as a result of modern improvements, by those who now submit to the operation as a matter of necessity, may be easily counterbalanced or even altogether outweighed by the mortality occurring among those operated on as a matter of election, who ten or fifteen years ago would never have been subjected to Cæsarean section at all.

Let us consider the case of a patient with a simple flat pelvis, having a conjugata vera of two and a half inches at full term in London. What she ought to know is, not what the lowest mortality of Cæsarean section may be in Germany, but what the mortality of the operation has been recently at the hands of competent operators here in London. She ought also to know the mortality of craniotomy under similar circumstances in a pelvis with the same measurements as her own. The right course to be adopted in such a case can only be ascertained by comparing the statistics of the two operations—Cæsarean section and craniotomy—respectively.

So far as I know, there are no statistics of Cæsarean sections performed in this country which enable us to state the percentage mortality of the operation so as to give the patient a fair idea of its risk. It is true that Dr. Murdoch Cameron has published a series of ten cases in which the death-rate was only 10 per cent.—an exceedingly good result; but, unfortunately, there is reason to believe this rate to be far below that of other operators in the United Kingdom, so that it cannot for a moment be accepted as representing the average risk of the operation.

Neither are obstetricians agreed as to the present mortality of craniotomy, some believing it to be little more than that of natural labour, others placing it as high as 20 per cent., and even higher. For instance, Dr. G. Eustache, of Lille, at the International Medical Congress of 1881, in comparing embryotomy and Cæsarean section, said, "Je crois ne pas dépasser les limites des probabilités en faisant la mortalité de l'embryotomie à 50 pour 100."

On the other hand, in Dr. Donald's valuable paper, "Methods of Craniotomy," read before this Society in January, 1889, eighteen cases of craniotomy are recorded in which the mortality was *nil.*

In the following six cases of craniotomy which have come under my care at the London Hospital the mortality was also *nil.*

Taking my own cases in conjunction with Dr. Donald's, I cannot but conclude that the danger of craniotomy has been exaggerated, and that the risk of this operation, even in cases of great difficulty, is really small.

Coming to the details of my cases—

As to difficulty.—In Cases 1 and 4 delivery was only effected with great difficulty. In these the conjugata vera measured 2⅜ inches. In Case 1 turning had been performed before I saw the case, and the legs and part of the body were outside the vulva, but it had then been found impossible to complete delivery.

It may be remembered that Dr. Donald, in the paper already referred to, recommends version as a matter of choice in such cases, followed by perforation. Certainly in this case of mine (Case 1) the difficulty of getting down the arms was very great, and the subsequent cephalotripsy far from easy. In fact, delivery was quite as difficult in this case as in Case 4, in which the contraction was as nearly as possible the same, but in that case version was not performed.

In the remaining four cases delivery was relatively easy; the true conjugate in each of these was as follows:

In Case 2, $2\frac{3}{4}$—$2\frac{7}{8}$ inches. (In this case there was slight general contraction of the pelvis also.)

In Case 3, $3\frac{3}{8}$ inches.

In Cases 5 and 6, $2\frac{1}{2}$ inches. (Operations 5 and 6 were in the same patient.)

As to the instruments used.—The cephalotribe was employed in all the cases. In Case 4 the cranioclast and the craniotomy forceps were also tried, but the former was not found of any service in that case, partly, as it seemed, on account of the moveable hinge, and partly owing to the head lying so far forwards relatively to the pelvic axes. The craniotomy forceps were used to remove most of the cranium, and delivery was completed with the cephalotribe.

As to antiseptics.—All the cases were treated with the most careful attention to antiseptic principles *after they came under my observation.* But in Cases 2 and 4 prolonged attempts had been made to effect delivery before the patients were brought to the hospital, and most probably antiseptics were not employed.

As to convalescence.—In Cases 1, 5, and 6 convalescence was rapid and uneventful. In Case 3 it was delayed by persistent fever and sub-involution, apparently due to sloughing of the endometrium. In Case 4 only was the outlook at any time really alarming. This patient almost certainly had an attack of pneumonia, but owing to her weak state the chest was not thoroughly examined. Ultimately she recovered completely. In Case 2 the patient's condition was never such as to occasion anxiety, but convalescence was considerably retarded.

Measurements of the pelves.—In each case the following measurements were taken before delivery :

1. Between the anterior superior iliac spines.
2. Maximum distance between the iliac crests.
3. The external conjugate, and
4. The diagonal conjugate. (In Case 1 this was taken *after* delivery.)

After delivery the conjugata vera was in each case

determined by the introduction of the hand. Another plan of determining the true conjugate was employed besides the introduction of the hand in Case 5, and I have used it in some other cases not recorded in this paper. The method I refer to is the introduction of a ring pessary into the true conjugate. It is not difficult to adjust a thick pessary so that it shall lie exactly in the conjugate of the brim without being pressed out of shape. When a pessary has been found that exactly fits, its diameter gives the true conjugate.

Three of the patients were primiparæ, and two were multiparæ. In Case 3 there is no note on this point.

Case 1.—A. T—, aged 22, a primipara, was admitted into the London Hospital, in labour, on January 27th, 1886. She had been in labour forty-eight hours before admission, and was sent up to the hospital because the pelvis was thought to be contracted. The vertex had presented, but before I first saw the case turning had been done, and the legs and part of the body were outside the vulva. The operator had then found himself unable to complete delivery.

Careful external measurements of the pelvis were then taken, and found to be as follows:

Between the anterior superior iliac spines = $10\frac{1}{2}$ inches.
Maximum distance between the iliac crests = $10\frac{1}{2}$ inches.
External conjugate = $5\frac{3}{4}$ inches.
Between the posterior superior iliac spines = $2\frac{3}{4}$ inches.
Height of the symphysis pubis = 2 inches.

There was great difficulty in getting the arms down, and the left humerus was fractured in doing so. The occiput was then perforated, and the cephalotribe applied. The skull had to be crushed twice before it could be made to descend, and it was only even then delivered with difficulty.

The diagonal conjugate was $3\frac{1}{8}$ inches, and the true conjugate (measured by the introduction of the hand) was $2\frac{3}{8}$ inches. The contraction was found to be not limited

to the brim, but to extend about as low as the second sacral vertebra.

The fœtus, which was a female, weighed (without the brain) 6 lbs. 13½ oz. On dissection it was found that the base of the skull had been thoroughly crushed. The cervical vertebral column had been fractured, the head only being attached to the body by the integument and soft parts. The centre in the lower end of the femur was well ossified.

For six days after the operation the patient had moderate fever, on the third day after delivery the temperature reaching 102°, on the fourth day varying from 100·2° to 102°, on the fifth day from 100·2° to 102·6°, on the sixth day from 99·8° to 103°, on the seventh day from 98·6° to 100·4°, on the eighth day from 99° to 100·4°, on the ninth day from 99·6° to 101·2°. From the tenth day the temperature was normal. The patient's general condition was never such as to occasion anxiety, and she left the hospital quite well.

Case 2.—A. L. C—, aged 21, was admitted into the London Hospital, in labour, on January 9th, 1886. She had had one child two years previously. The labour on that occasion was said to have taken place at full term, and to have lasted only six hours. The child lived six months.

On the present occasion she had been attended in the first instance by a midwife; after thirty-six hours, as no progress was being made, a doctor was called in. He applied the forceps; while he was making traction the forceps slipped off, and the patient screamed, saying, "You have cut me." Another doctor was then called in, and during about five hours efforts were made to effect delivery without success. The patient was, therefore, sent up to the hospital. The resident accoucheur made another attempt with the forceps, and then sent for me.

The measurements of the pelvis were as follows:

Between the anterior superior iliac spines = 8¼ inches.

Maximum distance between the iliac crests = $9\frac{1}{2}$ inches.
External conjugate = $6\frac{1}{2}$ inches.
Diagonal conjugate = $3\frac{5}{8}$—$3\frac{1}{2}$ inches.

The presentation was right occipito-posterior, and the fœtal heart was heard. There was a laceration of the soft parts in the neighbourhood of the sacral promontory into which the tip of the finger could be passed. After the forceps had been again tried unsuccessfully cephalotripsy was performed. The true conjugate was carefully measured after delivery, and estimated at $2\frac{3}{4}$ to $2\frac{7}{8}$ inches. It will be seen that there was slight general contraction of the pelvis.

For twenty-nine days after delivery this patient suffered from more or less fever, though her condition was never such as to make one really anxious as to the ultimate result.

During the first week the temperature was rarely below 101°, and reached 102·6° on several occasions. The pulse varied from 132 on the day after delivery to 80 at the end of the first week.

During the second week the temperature varied from 99·2° (lowest) to 103°, and on one occasion 104°. The pulse on the only occasion on which it was recorded in the notes during this week was 80.

During the third week the temperature varied between 98·2° and 101·8°.

During the fourth week the temperature varied from 99° to 101·2°, and from the twenty-ninth day onwards the temperature was normal.

Convalescence was therefore retarded considerably, but the long time the patient had been in labour, and the number of operative procedures she had undergone before coming to the hospital, I think sufficiently account for it. Ultimately recovery was complete.

Case 3.—Sarah J—, aged 25, was admitted into the London Hospital, in labour, on May 13th, 1886. Labour had begun on the previous day about 2.25 p.m., and

about 3.30 on that day the os was said to have been about the size of a five-shilling piece. At two minutes past midnight the os was found to be fully dilated. The vertex presented, and there was a large caput succedaneum.

About 3.7 p.m. on the afternoon of the 13th the resident accoucheur was sent for to see the case. He attempted to deliver with the forceps (the patient being under chloroform), but failing to do so had the case sent up to the hospital. I saw her about 6 p.m.

The measurements of the pelvis were as follows :

Between the anterior superior iliac spines = $8\frac{3}{4}$ inches.

Maximum distance between the crests = $10\frac{3}{8}$ inches.

External conjugate = 7 inches.

Diagonal conjugate = 4 inches.

The true conjugate (after delivery) was found to be $3\frac{3}{8}$ inches.

On examining the abdomen the ring of Bandl was felt about four fingers' breadths above the pubes. The fœtal heart was not heard. The labia were much swollen, and meconium was being discharged. The sagittal suture was felt running across the pelvis, parallel to the transverse diameter ; the anterior fontanelle lay to the right, much obscured by the caput succedaneum.

Chloroform was given, and the forceps again tried, but without success. Cephalotripsy was then performed, the head being crushed twice. There was a good deal of bleeding after the placenta came away ; it was checked by hot water injections and the hypodermic administration of ergotin ($4\frac{1}{2}$ grains in all being given).

On the evening of May 15th the temperature was 103°.

May 31st.—Ever since delivery there has been a lump to be felt reaching up to the umbilicus, at first of course taken to be the uterus, but latterly, as the patient has had more or less fever since the confinement, thought to be due, in part at least, to inflammatory exudation. To-day the patient was examined on the couch, and it was then found that a large sound could be passed up to the

highest point of the tumour in the abdomen, thus proving it to be the body of the uterus. The sound passed about 5¼ inches. The uterus was washed out with carbolic lotion; the fluid that came back first was extremely offensive.

June 13th.—A yellow, leathery mass about 2 inches long by 1 inch broad was found hanging from the os. It was twisted off with cervix forceps; it had an intensely fœtid odour.

24th.—The uterus still being about the same size as on May 31st, and the patient's general condition unsatisfactory, fever still persisting, an anæsthetic was given, and the interior of the uterus thoroughly scraped with a Récamier's curette. Several yellow flakes, extremely offensive, about $\frac{1}{16}$ of an inch thick, were removed, perhaps enough to fill two or three table-spoons.

From this time the patient rapidly improved, her highest temperature being 100° (on June 27th), and from that time normal.

By July 14th, just three weeks after the curetting, the uterus had involuted to its ordinary size, and the sound only passed the normal distance. The uterus was freely moveable.

The persistent subinvolution during six weeks after the confinement was a very remarkable feature in this case; and the rapidity with which involution proceeded, after the endometrium had been curetted, was equally striking. It seemed to me that probably the length of time for which labour was allowed to continue without progress had led to some sloughing of the endometrium, and that the yellow flakes removed by the curette had originated in that way. The os was known to have been fully dilated at least eighteen hours before delivery was completed.

Case 4.—Emma H—, a primipara aged 27, was admitted into the London Hospital, in labour, on Sunday, January 8th, 1888.

Labour had begun on the morning of Saturday, the 7th, at 10 a.m. At 12 on Saturday night, as no progress was being made, a doctor was called in. He perforated the head, assisted by a friend, but, as they could not deliver, the patient was sent up to the hospital.

I saw the case about 4 a.m. on Sunday morning.

The following were the measurements of the pelvis:

Between the anterior superior iliac spines = 11 inches.

Maximum distance between the crests = 11 inches.

External conjugate = $5\frac{1}{4}$ inches.

Diagonal conjugate = $2\frac{7}{8}$ inches.

The true conjugate was found (after delivery) to be $2\frac{3}{8}$ inches.

An arm was down in the vagina, and the perforated head lay above and somewhat anterior to the pubes. The prolapsed arm was amputated at the shoulder-joint. I then tried to seize the head with the cranioclast, but was unable to get a good hold, the head lying so far forwards, as well as being above the pubes. The cephalotribe was then used, and with great difficulty I succeeded in applying it to the head. Much time was occupied in getting it to grasp the head; and the head was crushed several times before it could be made to descend. Some portions of the cranium were also removed with craniotomy forceps. The body did not enter the pelvis till it was seized with the cephalotribe and its bulk reduced.

The weight of the child without the amputated arm, brain, and some parts of the cranium was $6\frac{1}{4}$ lbs.

On the whole I consider this case to have been the most difficult of the series.

Subsequent progress.—This patient was very ill for three weeks after her confinement.

During the first week the temperature varied from subnormal (97·2°) on the second day to 104° on the fifth and sixth days, and on the seventh day she had a rigor. The pulse ranged from 102 to 164. On the seventh day she was breathing 36 to the minute.

During the second week she was still for the most part

feverish, but the temperature was not quite so high, 103 being the maximum. The pulse ranged from 110 to 140, and the respiration from 24 to 34.

During the third week the temperature was lower, only reaching 101° on three occasions, and usually being from 98·2° to 100°. The pulse varied from 100 to 136, and the respiration from 16 to 25.

About the end of the first week the patient had almost certainly an attack of pneumonia, as she had cough with rusty sputa and rapid breathing. The chest was, however, not examined, as the patient was very weak.

On February 20th the cough had almost left her. The uterus was found to be freely moveable, and there was no evidence of the damage sustained by the soft parts at the time of delivery. She could then hold her water two hours, but for several days after the confinement the urine escaped involuntarily.

The patient's height was 4 feet 5⅝ inches.

Case 5.—Alice C—, aged 24, primipara, was admitted into the London Hospital, in labour, on November 16th, 1888.

The patient was seen in the first instance at her own home by a maternity pupil, who found the cord prolapsed. He tried to replace it by putting her in the knee-elbow position, but was not able to get it back. The resident accoucheur then saw the case, and found that the pelvis was contracted. The os uteri was about the size of a shilling. This was at 1 a.m. The patient was admitted into the hospital about 11 a.m., and I saw her about 11.30.

The measurements of the pelvis were as follows:

Between the anterior superior iliac spines = 10¼ inches.

Maximum distance between the crests = 10⅜ inches.

External conjugate = 5¾ inches.

Between the posterior superior iliac spines = 2½ inches.

The diagonal conjugate was taken, but not recorded.

Chloroform was given, and cephalotripsy performed. The true conjugate was found to be 2½ inches. In addi-

tion to measuring it by the introduction of the hand, the plan of inserting a thick watch-spring ring pessary into the conjugate was employed. It was found that a pessary with a diameter of 2½ inches just fitted into the conjugate.

Subsequent progress.—During six days after delivery the patient was febrile at some period of the twenty-four hours, the maximum being 102° on the night of November 16th; but her general condition was satisfactory otherwise, and she made a rapid recovery. Her height was 4 feet 7½ inches.

Case 6.—This was a second confinement in the same patient (Case 5). She was admitted into the London Hospital, in labour, on March 3rd, 1890. The vertex presented, and the membrane had ruptured spontaneously. As I was out when a message came about the case, the resident accoucheur proceeded to perform craniotomy, knowing that it had been necessary at her previous confinement. He used the cranioclast, the craniotomy forceps, and the cephalotribe.

The patient made a rapid recovery, the highest temperature being only 100·4°, and she left the hospital on March 18th.

In conclusion, I would call attention to the fact that Cases 1, 2, 3, and 4 had been many hours in labour before admission, and that prolonged attempts had been made to effect delivery before craniotomy was performed, so that, though these patients recovered, they must have incurred a greater risk than they would have done if the necessity for the operation had been recognised early.

As regards risk, it would not be fair to compare cases of Cæsarean section at an early stage of labour with cases of craniotomy after labour had been in progress many hours, or even days. Early cases should be compared with early cases, for in either Cæsarean section or craniotomy the prognosis must be better when the operation is undertaken early, at a time when the tissues are in a healthy condition, and the patient's strength unimpaired.

No.	Name and age.	Previous pregnancies.	Date of operation.	Measurements of pelvis.	Method of operation.	Number of hours in labour before admission.	Convalescence.
1	A. T., 22	0	Jan. 27th, 1886	Sp. il. ..... = $10\frac{1}{2}$ in. Cr. il. ..... = $10\frac{1}{2}$ in. Conj. ext..... = $5\frac{3}{4}$ in. Conj. vera ... = $2\frac{3}{8}$ in.	Turning done before I saw the case. Perforation of after-coming head and cephalotripsy. Delivery very difficult	48	Rapid recovery. Temperature normal after 10th day.
2	A. L. C., 21	1. Labour on that occasion said to have been rapid; child lived 6 months	Jan. 9th, 1886	Sp. il. ..... = $8\frac{1}{4}$ in. Cr. il. ... . = $9\frac{1}{2}$ in. Conj. ext..... = $6\frac{1}{2}$ in. Conj. vera = $2\frac{3}{4}$—$2\frac{7}{8}$ in.	Cephalotripsy; easy	At least 41	Slow recovery. More or less fever for 29 days after delivery, but prognosis never really unfavourable.
3	S. J., 25	No note	May 13th, 1886	Sp. il. ..... = $8\frac{3}{4}$ in. Cr. il. ..... = $10\frac{3}{8}$ in. Conj. ext..... = 7 in. Conj. vera ... = $3\frac{3}{8}$ in.	Cephalotripsy; fairly easy	28	Slow recovery. Persistent subinvolution, accompanied by more or less fever, till uterus curetted June 24th; then involution rapid.
4	E. H., 27	0	Jan. 8th, 1888	Sp. il. ..... = 11 in. Cr. il. ..... = 11 in. Conj. ext..... = $5\frac{1}{4}$ in. Conj. vera ... = $2\frac{3}{8}$ in.	Amputation of prolapsed arm; cephalotripsy; some portions of cranium removed with craniotomy forceps. Delivery very difficult	18	Patient very ill for 3 weeks. Had an attack of pneumonia. Ultimate recovery complete.
5	A. C., 24	0	Nov. 16th, 1888	Sp. il. ..... = $10\frac{1}{4}$ in. Cr. il. ..... = $10\frac{3}{8}$ in. Conj. ext..... = $5\frac{3}{4}$ in. Conj. vera ... = $2\frac{1}{2}$ in.	Cephalotripsy; easy	About 12 hours	Rapid recovery. More or less feverish for 6 days after delivery. Highest temp. = 102°.
6	A. C. Same patient as in No. 5	1	March 3rd. 1890	As in No. 5	Cephalotripsy. The cranioclast and craniotomy forceps also used	No note, but had not been very long in labour	Rapid recovery. Highest temp. = 100·4°.

Dr. JOHN PHILLIPS had contributed a paper on the same subject as Dr. Lewers three years ago ('British Medical Journal,' June 1st, 1889), but although on similar lines his conclusions were different. His own cases of craniotomy were sixteen in number, and all recovered; twelve of these were for contracted pelvis, of which four could be included under the same category as those related by the author. He could not but conclude from his own experience that cephalotripsy was a very difficult operation, especially after repeated attempts by others to deliver by means of the forceps. The author had not alluded to statistics of large numbers of craniotomies—for example, Determann at Berlin (1876—1887) performed the operation 239 times in 22,051 cases, with a mortality of 12·8 per cent. up to 1882, and 9·4 per cent. from 1882 to 1887 ('Zeitschrift f. Geburt. u. Gyn.,' 1888, Bd. xv, s. 323). Other statistics from Leipzig gave the mortality as 8·0 per cent. Dr. Phillips thought these figures were of great value. He would like to ask Dr. Lewers how he proposed to deal with the cases he had related in event of a second pregnancy: for his own part, he considered that having once performed craniotomy on any patient, and warned her of the risk she incurred by again becoming pregnant, he would only repeat the operation under protest or decline altogether.

Dr. PETER HORROCKS said that the important point in the paper was the comparison between craniotomy and Cæsarean section. He quite agreed with the author that general statistics of the two operations were valueless. In the Guy's Lying-in Charity the number of cases of craniotomy collated by Dr. Galabin from 1865 to 1875 was 1 in 1310, or ·07 per cent.; from 1875 to 1885 collated by himself the number was 1 in 1074, or ·07 per cent. In all, during the last-mentioned decennial period, 24 cases required perforation; of these 4 mothers died, 2 from rupture of the uterus, 1 from rupture of vagina into rectum owing to atresia, and 1 from suppurative peritonitis which followed after prolonged efforts at delivery had been otherwise made. He thought, therefore, that excluding such cases as these, where death would probably ensue whether craniotomy was performed or Cæsarean section, it must be admitted that craniotomy as at present performed, with all modern methods and precautions and antiseptics, had a much lower maternal mortality than had Cæsarean section performed under similar conditions even in the most successful hands. But he did not think this fact should prevent us from offering to a patient the alternatives. As a matter of fact the mortality after Cæsarean section was a diminishing one, and no doubt, like all other operations, would improve more and more with increasing experience. He must confess to an increasing aversion to perforation of a living child's head. The certain death of the child on the one hand, and the almost

certain safety of it on the other, must be taken into consideration; and if the mother and father and friends were willing to take the extra risk involved, he considered Cæsarean section quite justifiable. He mentioned a case of great pelvic contraction which recently occurred in the Guy's Lying-in Charity, where the alternatives were placed before the parents. They would not consent to any extra risk, and, moreover, were glad not to have a living child; hence craniotomy was performed, and the mother made a good recovery.

Dr. CHAMPNEYS said that, in a subject so large as that before the meeting, only a few points could be discussed. There was, for instance, no time to speak of the very important relation of the induction of premature labour to Cæsarean section. In a pelvis susceptible of the former treatment in a subsequent labour it was plainly our duty to perforate even a living child on the first occasion. It must, however, be borne in mind that the statistics of Professor Belluzzi showed that few children grew up who were delivered through a pelvis of less than 3 inches.

A point in favour of Cæsarean section which had not yet been referred to was the opportunity of sterilising the patient which it afforded.

The mortality of simple craniotomy was probably nil. The plunging of a perforator into the head of a child should not be a risk to the mother. The dangers of craniotomy were principally two. The first consisted not in the operation, but in the futile attempts at delivery by forceps which so often preceded it. This explained the paradox that the maternal mortality was greater in slight than in great contractions of the pelvis, for in the latter no such attempts were made. The second consisted not in perforation, but in extraction. Intra-uterine craniotomy was one of the most dangerous operations in midwifery. It was easy to perforate, and at the time of perforation the os was often pretty large, but as soon as the head collapsed a little it shrank up again. It was then too small to apply the cephalotribe, especially high up in the pelvis, and delivery had to be effected by removing the vault of the skull piecemeal, followed by cephalotripsy as a rule, the cervix being almost always severely lacerated in the process. This subject was seldom mentioned, but such cases were not rare in practice.

With regard to the ethical question, he did not think that Cæsarean section was done often enough in England, but he could not agree with Dr. Phillips that a woman should be left to die because she refused Cæsarean section. Such a refusal would not, he felt sure, be upheld by a court of law, nor by professional opinion. If called to a case in which Cæsarean section would be the proper treatment, he believed that it was the duty of the medical man to set forth plainly the right course to pursue; but

if that was declined, it was then his duty to save the patient's life by perforation, his province being that of a guardian of life and health, and not that of a judge.

Dr. WILLIAM DUNCAN thought that, notwithstanding the great advance made in surgery recently, we are not in a position to dogmatise on the comparative merits and risks of Cæsarean section and craniotomy. Until recently Cæsarean section had not had a fair chance in this country, being only performed a few times and as a *dernier ressort* but Leopold's statistics (which cannot be disputed) showed that the mortality of the operation was only 8 or 9 per cent. It was very doubtful whether craniotomy had a less mortality; the cases quoted by the author were too few on which to base an opinion. It was exceedingly important to bear in mind two facts not mentioned in the paper: the first was that whereas in one operation all the children were saved, in the other they were necessarily destroyed; and although the life of the mother should be our first consideration, still that of the child must not be ignored. At any rate, the mother should have the position fully explained, so that she may choose whether she would run a little more risk in order to have her child saved. The second fact to which he wished to allude was that many women after craniotomy were left more or less crippled from lacerations and pelvic inflammations, whereas nothing of the kind was seen after Cæsarean section. An important advantage of the latter operation was, as had been already mentioned, the opportunity it gave of placing the woman in a condition that she could not again conceive. He feared that in spite of the lessened mortality after Cæsarean section the general practitioners would still have resort to craniotomy in preference to the other, but he thought the time had arrived when we ought to completely revise the teaching and practice of delivering a woman by craniotomy in all (except the most severe) degrees of contracted pelves.

Dr. HERBERT SPENCER thought that such small pelves (four of which had a conjugate diameter of $2\frac{1}{2}$ inches or less) as those given in Dr. Lewers's paper were very rare. At University College Hospital there had not been one pelvis with such a small conjugate diameter as $2\frac{1}{2}$ inches in over 10,000 labours. In such a case he would prefer Cæsarean section as equally or less dangerous to the mother than craniotomy. He asked whether Dr. Lewers had included in his paper all the cases of craniotomy which had occurred at the London Hospital in over five years, or only those performed by himself. Judging from the experience at other hospitals, Dr. Spencer thought it could not be that craniotomy had only twice been necessary in pelves measuring over $2\frac{1}{2}$ inches in the conjugate. At University College Hospital craniotomy had been performed for contracted pelvis eleven times

in 10,000 labours, always with success to the mother. The pelves had mostly varied between $3\frac{1}{4}$ inches and $2\frac{3}{4}$ inches in the conjugate, and in such cases he considered craniotomy had a very slight, if any, maternal mortality, and was in this respect greatly superior to Cæsarean section. Much had been said of Dr. Leopold's results in Cæsarean section, but that operator's results in craniotomy were much better (71 cases without a death from the operation). Admitting the principle that the child might be sacrificed in the interest of the mother, he would, in any individual case of labour with a mature living child, adopt that method of delivery which gave the best chance to the mother, and would prefer craniotomy in all the ordinary cases of contracted pelvis and Cæsarean section in those extreme cases which were very rare.

Dr. Handfield-Jones thought that if Cæsarean section was to be employed more frequently, and practitioners of medicine were to be taught that they ought to do that operation in many cases in which they had hitherto performed craniotomy, then it would be necessary to consider whether the Porro operation would not be safer in the hands of men unaccustomed to abdominal surgery rather than the Sänger-Cæsarean section. Certainly the risks of hæmorrhage, the complication of uterine atony, and the difficulties of suture of the womb-incision were avoided in the Porro operation. Dr. Handfield-Jones asked whether the case of delayed involution quoted in the paper was not one of "metritis desiccans," and asked if the author had examined the sloughs microscopically for muscular tissue.

Dr. Cullingworth thought the series of cases reported by Dr. Lewers an unsuitable basis upon which to raise a discussion on the relative merits of craniotomy and Cæsarean section. With the exception perhaps of No. 6, which was not a case of Dr. Lewers's at all, all the cases had been subjected, before Dr. Lewers saw them, to long and repeated attempts at delivery; in all of them, presumably (though the point was not alluded to in the paper), the child was dead. In such cases as these no one would for a moment entertain even the thought of Cæsarean section. Obviously craniotomy was not only the right thing to do, but the only thing to do. It was when one was consulted by a patient before labour set in, the child being alive and the pelvic deformity considerable, that the real difficulty occurred of deciding what advice to give. The question was entirely one of degree. Probably, if a vote were taken, all obstetricians would agree that the patient should be advised to undergo Cæsarean section if the conjugate diameter were $2\frac{1}{4}$ inches or under; the majority would most likely be in favour of giving that advice where the conjugate did not exceed $2\frac{1}{2}$ inches, whilst a large minority would he thought be disposed to recommend

Cæsarean section, under such circumstances, if the contraction were even as considerable as $2\frac{3}{4}$ inches. He himself would be found in the last-named category.

With regard to the hesitation shown by British practitioners in advising their patients to submit to Cæsarean section, it was a state of things that would continue until a larger number of successful cases had been recorded. The late Dr. Matthews Duncan, in a discussion in that Society in the year 1887 on a paper of his (Dr. Cullingworth's), had put this very forcibly. "It was to Germany," said Dr. Duncan, "that we must look for the guidance of experience to such wonderful successes as those of Sänger and Leopold, and Credé and Gusserow. It was such successes alone that should and would lead us in this great practical question. . . . . No amount of eloquence about the abolition of craniotomy—and there had been much of such talk—would help forward that much-to-be-desired result. Nothing but success in some alternative operation, such as Cæsarean section, success like that of Sänger or Leopold, would be convincing eloquence or do the least good." He (Dr. Cullingworth) could not help thinking it matter for regret that any words should be used in reference to this subject which would have a tendency to discourage in this country the performance of Cæsarean section in suitable cases.

Dr. Rutherfoord remarked that the author in his paper arrived at the conclusion that the Cæsarean section should be an operation undertaken as a necessity, and not as one of election. Dr. Rutherfoord thought this conclusion was hardly justified by the cases brought forward by the author. In five out of the six tabulated cases the surroundings and accompanying circumstances were most unfavourable before craniotomy was performed; there had been a want of antiseptics, prolonged and persistent interference with the uterus had been carried out, and in all there had been repeated attempts to deliver with forceps. In spite of these unfavourable circumstances very successful results had been obtained. Dr. Rutherfoord believed similarly successful results might be obtained were Cæsarean section made an operation of election, with this advantage, that a living child would be brought into the world.

Dr. Leith Napier thought that the question raised by the author regarding the relative dangers of craniotomy and Cæsarean section, and which, by arrangement, had not been discussed at the last meeting, deserved notice. Dr. Lewers erred in suggesting that the mortality of craniotomy was *nil*, and that of Cæsarean section "very much higher than reported." Taking large numbers of cases, the maternal mortality in antiseptic craniotomy was 6·6 per cent., a very excellent figure compared with the general result; in the hands of the best operators the maternal mortality

was about 8·8 per cent. in Cæsarean section, and the infantile mortality practically *nil*. It might be averred that these splendid results of Leopold and Cameron, in their 50 and 18 cases respectively, were not likely to be reached by the majority of operators. But if we referred to an article in the 'New York Medical Journal' for August 29th, 1885, three years before Cameron's first case, and when Leopold had only operated by Sänger's method three or four times, we would find that Dufeilhay as cited by Lusk gave statistics showing 81 per cent. of women saved. In another series of 61 operations in rural districts there were more than 78 per cent. of recoveries. There could be no doubt that craniotomy must, except under special circumstances, such as infantile death, &c., be regarded as a most undesirable procedure; and little less doubt that Cæsarean section would be generally preferred in the near future. He would not now enter on his personal experience of craniotomy, which, however, had been sufficient to enable him to speak with some confidence in stating that he had performed this ghastly operation much oftener in the past than he hoped to do in the future with his more recent knowledge of Cæsarean section.

Dr. Lewers, in reply, said it was important to keep in view the fact, however we explain it, that the mortality of Cæsarean section in London, performed by operators of acknowledged competence in other serious operations, was still very high, from 20 to 50 per cent., and even in some cases higher. This was a matter of common knowledge, and it appeared clearly also in the course of the discussion on Cæsarean section at the last meeting of the Society. This being so, it would obviously be wrong to advise patients to undergo the operation on the ground that some operators in Germany, and Cameron in Glasgow, have a mortality of about 9 or 10 per cent. It was said that in order to get such results the operation must be done more frequently than hitherto. Granting this for the sake of argument, contracted pelves were not sufficiently common in London to give all the London obstetricians many cases each. The cases of craniotomy in his paper, and others to which he had referred, showed that the mortality of that operation here was very low; and Leopold's statistics brought out the same thing, as he had had 71 cases of craniotomy with 2 deaths, both cases of eclampsia, against a mortality of about 9 per cent. for Cæsarean section. Dr. Lewers entirely agreed with Dr. Champneys that, in each case, the risk of Cæsarean section and craniotomy respectively should be put plainly before the patient and her friends, and that, if they decided for craniotomy, it was our duty to perform it, even time after time. We had no right to compel a patient, or even to urge her, to take a very dangerous path of retreat from her painful position when an almost certainly safe one lay open to her.

JUNE 1st, 1892.

J. Watt Black, M.D., President, in the Chair.

Present—49 Fellows and 10 Visitors.

Books were presented by Professor W. T. Lusk, M.D., and Sir William Turner, F.R.S.

Augustus Kinsey-Morgan, M.R.C.S. (Bournemouth); W. Gifford Nash, F.R.C.S. (Bedford); and Walter Carless Swayne, M.B.Lond. (Clifton), were declared admitted as Fellows of the Society.

The following gentlemen were proposed for election:—William McAdam Eccles, M.B., B.S.Lond.; William John Mackay, M.B., M.Ch.Sydney (Sydney); Samuel Walshe Owen, L.R.C.P.Lond.; and William Bramley Taylor, M.R.C.S (Denmark Hill, S.E.).

A CASE OF EXTRA-UTERINE GESTATION.

By E. Malins, M.D.

Dr. Malins showed a specimen of extra-uterine gestation from a patient operated upon by him the previous day. The patient, æt. 39, was married a second time six months ago. By her first husband she had one miscarriage and three children, the last pregnancy 15½ years ago, the labours all easy. She menstruated regularly until about five months ago, then became unwell for six weeks, but has seen nothing for the past three months. She was

admitted into the General Hospital, Birmingham, complaining of abdominal pain. There was felt a large mass extending from the pelvis to the right iliac fossa, and a smaller one on the left of the median line. *Per vaginam* there was a large mass behind and to the right of the cervix felt bimanually; the uterus was drawn up to the left, the os being felt just behind the pubes—this was the left mass felt externally. Extra-uterine pregnancy was diagnosed. The abdomen was opened in the median line on May 31st, 1892. A large extra-uterine gestation cyst was found in the pelvis, ruptured at the posterior and lower part, a quantity of blood being in the abdominal cavity. The fœtus was extracted; it weighed 1lb. 5oz. There was considerable hæmorrhage. The placenta was left, the edges of the cyst sewed to the abdominal wound as well as possible, and the cyst packed with sponges soaked in perchloride of iron solution. The patient lived a few hours only, her condition before the operation being almost hopeless.

TUBAL GESTATION WITH APOPLECTIC OVUM, SAC UNRUPTURED.

By C. J. Cullingworth, M.D.

Dr. Cullingworth exhibited a Fallopian tube distended near its fimbriated end to about the size of a pigeon's egg, by what he believed to be an apoplectic ovum.

The patient was a married woman, aged 34, the mother of three children. Her last menstrual period ceased November 15th, 1891; after this she had no discharge until February 3rd, 1892, when, after three or four days' malaise, there occurred a sudden and sharp hæmorrhage. She went to bed and had been confined to bed ever since, except that after the first few weeks she tried sitting up in a chair

for part of the day. She could not sit longer than three or four hours at a time, and, at the end of a fortnight, again found it necessary to keep her bed altogether, on account of the hæmorrhage, so that for upwards of three months she had not been able to take any part in the work of the house. From time to time, during this period, she was seized with pains like those of labour. These attacks were followed by an increase in the amount of hæmorrhage, which seemed to bring relief. On May 11th, after having been free from pain for a fortnight, she had a more than usually severe attack. Her doctor said she was pregnant, and that there was something wrong, and advised her to come into the hospital. Instead of doing so, she applied to the Surrey Dispensary, and was visited by the medical officer, who, finding a swelling behind the cervix, in Douglas's pouch, diagnosed retroversion of the gravid uterus. Ineffectual attempts were made to reduce the supposed displacement. Dr. Wheaton then saw the patient, and, feeling considerable doubt as to the diagnosis, sent her, on May 14th, to St. Thomas's Hospital.

She was then in considerable pain, and there was some hæmorrhage going on. In three days the pain ceased, and did not recur; the hæmorrhage continued. On bimanual examination, a smooth, soft, even, oblong swelling two fingers' breadths in thickness was felt passing obliquely downwards from the situation of the right uterine appendages to the floor of Douglas's pouch, to which, as well as to the back of the cervix uteri, it was fixed by adhesions.

The right appendages could not be felt in their normal situation; the left could. The uterus was slightly retroverted, but not otherwise displaced; its canal was of normal length. It was thought most probable that the swelling was the right tube, distended with blood, and adherent in Douglas's pouch, and the diagnosis was early tubal gestation, unruptured, with apoplectic ovum. The abdomen was opened May 26th, and the specimen (now exhibited) removed. There were recent adhesions

in the pelvis. A soft elastic swelling was found in Douglas's pouch, connected with the right broad ligament aud somewhat firmly adherent to the peritoneum over the rectum. On bringing this to the surface, it was seen to be a sacculated portion of the right Fallopian tube one and a quarter inches long by three quarters of an inch wide, of a dark yellowish-brown colour, and apparently distended by blood-clot. The fimbriated end of the tube was patent, and a bristle could be passed into it and made to emerge at the divided uterine end. There was a little altered blood-clot in the undilated portion of the tube.

The preparation was being hardened in spirit, previous to its being laid open. He had little doubt that the contents of the dilated tube would be found to consist of an apoplectic ovum, but he should be very pleased if the same committee that was appointed to report on the specimen he showed at the last meeting were asked to examine and report upon this one.

The other tube and both the ovaries were normal, and were, therefore, not interfered with beyond the separation of adhesions.

The patient had not had a single bad symptom since the operation and the temperature had on no occasion exceeded 99·8°.

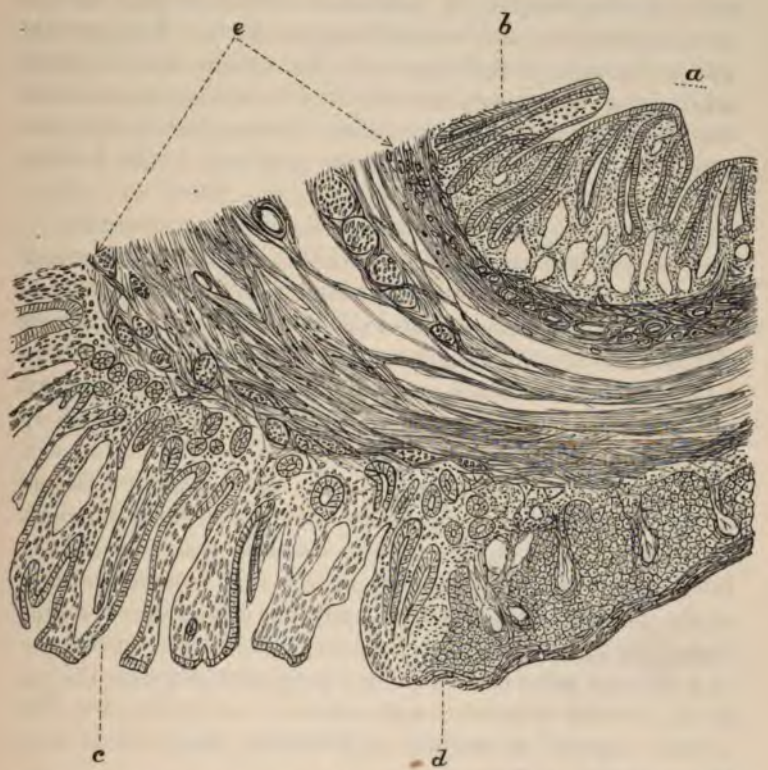
A Committee, consisting of Dr. Cullingworth, Mr. Doran, Dr. William Duncan, and Mr. J. Bland Sutton, was appointed to report on this specimen.

PROLAPSE OF MECKEL'S DIVERTICULUM IN AN INFANT, FORMING AN UMBILICAL TUMOUR.

By S. W. Wheaton, M.D.

The specimen was removed from a male infant, aged 10 weeks, admitted into the Royal Hospital for Children and Women under the care of the author. A small pink

tumour was noticed at the umbilicus two weeks after the separation of the cord; it had steadily increased in size, and on admission was as large as a filbert. The tumour



Portion of transverse section of tumour of umbilicus formed by prolapse of Meckel's diverticulum.

a. Placed in the central canal of the tumour. *b.* Mucous membrane resembling that of small intestine. *c.* Peripheral surface of tumour showing mucous membrane resembling that of small intestine. *d.* Point of transition from structure of mucous membrane to that of skin. *e.* Muscular fibre transverse and longitudinal.

was irregular in shape, measuring one inch in length and half an inch in breadth; it was attached by a narrow pedicle to the umbilicus. At the upper end of the tumour was a small orifice situated in the middle of a depression.

A mucoid fluid constantly came away from the orifice, and a probe passed down it travelled downwards and backwards into the abdomen easily for 2½ inches, at which point it was stopped by resistance. The surface of the tumour was pink and velvety in appearance. The growth was removed by ligature, and the stump treated with solid nitrate of silver. The child had no bad symptoms, and was seen four months later, when it was quite well; the umbilicus looked healthy, and no cyst was to be felt in the abdomen.

A transverse microscopical section of the tumour shows that the central canal through which the probe was passed is lined by mucous membrane, which resembles that of the small intestine, except that villi and solitary glands are absent; the intestinal glands are well developed. The external surface of the tumour is covered also with mucous membrane, exactly similar to that of the central canal, except that the glands are larger, and that in places the mucous membrane is seen to be in the process of transformation into skin. The transformation of the cylindrical epithelium of mucous membrane into the squamous epithelium of skin is extremely interesting, and is no doubt due to the effect of exposure and irritation of the mucous surface. Mr. Solly has described similar changes in the case of a uterine polypus, which had projected through the os uteri, and the cylindrical epithelium covering which in the portion exposed to friction had become transformed into the squamous variety.

Between the two layers of mucous membrane are two layers of transverse and longitudinal muscular fibres, which together with connective tissue and vessels compose the bulk of the tumour. There is no doubt, from the microscopical and other characters, that the tumour is formed by a prolapse of the mucous membrane of Meckel's diverticulum. The literature relating to umbilical tumours is very scanty, especially of those occurring in infants. No description of any similar case could be found by Dr. Wheaton. The tumours which had been described as

occurring in this situation in infants were—(1) Adenomata, in which the growth was formed of masses of glandular tissue resembling that of the small intestine, but not arranged in any definite order. (2) Cases in which the tumour consisted of a projection caused by mucous membrane, which might resemble that of the small intestine, including the presence of solitary glands; or might, on the other hand, resemble that of the pyloric end of the stomach. (3) Capillary angiomata and nævi. (4) Granulomata composed simply of masses of small round cells. (5) Dermoid. The presence of the central canal lined by mucous membrane distinguishes the specimen from all the before mentioned conditions. It remains to be seen whether a cyst will develop in the remaining portion of the diverticulum; if the communication between it and the small intestine is closed, the formation of a cyst seems an extremely probable occurrence.

MICROCOCCI IN THE SUBSTANCE OF A DECOMPOSING FIBROID TUMOUR REMOVED BY HYSTERECTOMY.

By S. W. Wheaton, M.D.

The patient from whom the tumour was removed was admitted into St. Thomas's Hospital under the care of Dr. Cullingworth. She presented a cachectic appearance, and a tumour was present in the lower part of the abdomen extending up to the level of the umbilicus. The tumour had increased rapidly in size during the three months before admission. Soon after admission the tumour increased still more rapidly in size, and became acutely tender and painful; the temperature became continuously high, and the patient lost strength rapidly.

The symptoms pointed to rapid sarcomatous degeneration occurring in a uterine fibroid, except the continuous high temperature, which indicated rather that suppuration was present. Abdominal hysterectomy was performed, and the patient made an excellent recovery, the temperature becoming normal at once after the operation. The tumour was found to be a large interstitial fibroid; when it was incised during the operation bubbles of foul-smelling gas escaped from the incision.

The tumour on section presented a uniformly yellowish-pink colour, with spongy, elastic texture; there was no suppuration nor sloughing to be seen anywhere; it had a most offensive odour, like that of decomposing fish.

A portion was removed immediately after the operation and preserved in spirit; sections of this were made, and stained by Gram's method. The sections showed that the tumour was a fibromyoma, containing a great many dilated lymphatic spaces. The cells of the tumour were swollen, opaque, and granular, and their nuclei indistinct. Contained within the lymphatic spaces were large masses of micrococci in the zooglœa stage, embedded in a structureless material; similar micrococci were also seen lying among the cells of the tumour, both in masses and also scattered about singly. There was no hæmorrhage into the tumour, nor sign of sarcomatous changes, and a remarkable absence of any proliferating small round cells in the neighbourhood of the micrococci, such as would be present in inflammation.

The specimen is a remarkable example of a peculiar decomposition occurring in a tumour whilst within the living body. In all probability the tumour first became œdematous, and then organisms obtained entrance. Owing to the deficient blood supply, no inflammatory changes took place, and therefore no formation of pus occurred. At the same time the blood supply was sufficient to prevent gangrene from setting in. The presence of a large amount of moisture, absence of air, and maintenance of a uniform temperature, are the conditions which lead to

the formation of adipocere in decomposing animal matter. In all probability, if the patient survived, the tumour, under these conditions, would have become converted into a fatty mass resembling adipocere, with, perhaps, the additional presence of calcareous material. Interstitial fibroids are sometimes found in this condition on making post-mortem examinations in cases of death from independent causes in elderly females. In the case in point, however, the products of decomposition were sufficiently injurious and abundant to cause persistent high temperature and progressive emaciation, which would have resulted in the death of the patient unless she had been relieved by operation.

Dr. WHEATON, in reply to Dr. Horrocks, said that although the symptoms suggested sarcomatous degeneration of the tumour, there were no signs of any such change on microscopical examination. Mr. Doran had published a case of sarcomatous degeneration of a uterine fibroid, and he had also examined a specimen in which this change had occurred.

Dr. CULLINGWORTH, in reference to the second case to which Dr. Wheaton had alluded, said that the only explanation he could suggest of the very peculiar and unusual condition of the fibroid was that the tumour might have been penetrated and infected by the uterine sound. The tumour extended to within an inch of the ensiform cartilage, and filled the whole width of the abdomen. A sound was passed soon after the patient's admission. She was then in considerable pain, but was otherwise well. Two days afterwards a rigor occurred, and the temperature, which had not hitherto exceeded 100°, rose to 103°. This looked very much as though the examination were in some way to blame. He had disinfected the sound in the usual manner by immersing it in a solution of corrosive sublimate, but the patient had a yellow, intermenstrual discharge, and it is of course possible that the sound after disinfection had become re-infected in the vaginal or uterine canal, and, penetrating (unconsciously to the manipulator) a softened portion of the fibroid, had conveyed the infection to its interior. However caused, the change set up was of the most serious nature, and it became evident that unless surgical treatment were adopted, the patient must soon succumb. The operation of abdominal hysterectomy was accordingly performed. There was nothing unusual in the appearance of the uterus. But when it was cut through in the pathological laboratory, the livid discoloration and stale fish

odour led Mr. Shattock to at once pronounce the tumour to be in a state of incipient gangrene. There were no signs of softening or suppuration, and the change was strictly limited to the tumour itself, the uterine wall which entirely surrounded it being absolutely healthy. The patient's recovery was uninterrupted. He (Dr. Cullingworth) would be very grateful to any Fellow of the Society who could refer him to the record of any case at all similar, as he had not so far been successful in discovering such a case.

Mr. Alban Doran said that his paper, to which Dr. Wheaton referred, was entitled "Myoma of the Uterus becoming Sarcomatous," and was published in the 'Transactions of the Pathological Society of London,' vol. xli, p. 206, plate xii.

MICROSCOPIC SECTION OF THE UTERINE MUCOUS MEMBRANE IN THE CASE OF AN INFANT SUFFERING FROM UTERINE HÆMORRHAGE.

By S. W. Wheaton, M.D.

The preparations were made from a specimen shown by Mr. C. H. James and reported in the 'Transactions' for 1890.

The sections showed that the hæmorrhage had occurred into the superficial layers of the uterine mucous membrane, and therefore was capillary in its origin. Very few red blood corpuscles remained entire, but they had become broken up, and their débris, together with blood pigment, formed the yellow patches seen in the uterine mucous membrane. A few small uterine glands were to be seen in the mucous membrane; they were very short, and did not extend for any distance into the muscular layer. The yellow coloration of the liver of the child, which was the only other sign of disease in the body, was found to be also due to capillary hæmorrhage, and the deposition of blood-pigment between the liver cells. The presence of

uterine glands at the time of birth has been denied; but the author has found them to be always present at the fundus, although very short and barely extending to the muscular layer. In this case they were present at eight months, and it might be thought that their premature development had some connection with the hæmorrhage; but the author knew of no observations to show how early in fœtal life the glands began to develop. The presence of capillary hæmorrhages in the liver rather tended to show that the uterine hæmorrhage was merely part of a general tendency to capillary hæmorrhage, which was so common in new-born children, and of which a complete account had been given by Dr. Spencer in the last volume of the 'Transactions.'

Dr. CULLINGWORTH said no doubt some of the Fellows present were aware that about fifteen years ago he had published a short monograph on "Hæmorrhage from the Genital Organs of the recently-born Female Child," in the preparation of which he had ransacked medical literature for 250 years back, and had collected all the cases he could find reported during that period. The cases so seldom ended fatally, however, that scarcely any opportunities had been afforded of examining, *post mortem*, the condition of the uterine mucous membrane. Hence this case of Mr. James's was of extreme interest and importance, and he hoped that Dr. Wheaton, in his account of the appearances of the mucous membrane under the microscope, would refer to the volume and page of the 'Transactions' in which Mr. James's communication appeared, so as to facilitate future reference.

A CASE OF ECTOPIC PREGNANCY IN WHICH THE FŒTUS SEEMS TO HAVE BEEN DEVELOPED TO THE FULL TIME IN THE PERITONEAL CAVITY, STILL RETAINING ITS AMNIOTIC COVERING.

By Lawson Tait,
PROFESSOR OF GYNÆCOLOGY IN QUEEN'S COLLEGE, BIRMINGHAM.

(Received November 4th, 1891.)

Case of ectopic gestation in a patient, aged 36, *sent by Dr. Taplin, of Dorrington, admitted on October* 8*th,* 1891.

The patient had expected to be confined in April, but labour did not come on, and she was quite positive that she had last felt fœtal movements upon May 8th, 1891. Her first menstruation occurred at the age of fourteen; she was regular every four weeks, the period lasting about a week, moderate amount of loss, with no pain, till she married at the age of thirty-one.

She had two children, the last three years ago; but never had any miscarriages. Since the birth of her last child she felt perfectly well, and continued to suckle it till August, 1890; during that period was unwell about every three weeks, the flow lasting a week, no pain, and the amount of loss not quite so much as before her marriage.

Her last period was in the middle of July, 1890; after this she saw nothing till May 20th, 1891. During that period the abdomen increased in size regularly, but it was larger than it had been in previous pregnancies. She had morning sickness at times, but not so much as in her previous pregnancies. The breasts increased, and she believes that they contained milk in February, 1891. In the last week of September, 1890, she had an

attack of what her medical man told her was "inflammation of the covering of the bowels." She had severe pain, intense sickness, great thirst and distension, and was in bed for a whole month, and then continued to improve till January, 1891.

Her first feeling of fœtal movements was about Christmas, in the lower part of the abdomen, and these continued till May 8th. One day, in the middle of January, she fainted whilst dressing, and had to be carried back to bed. On attempting to rise at intervals during the day, she fainted each time, so the doctor was sent for in the evening. She had no pain during the day, but at night severe pain came on, which she likened to the pain of labour. Next day she had less pain, and gradually recovered, so that she was able to get up at the end of a week. The movements of the child then became very painful, and were more violent than in her previous pregnancies. She continued well till May 8th, when all movement ceased suddenly. Towards the end of May she had a slight menstrual show, and has seen slight shows every few days since then. The breasts, which then contained a good deal of milk, gradually became smaller, and the milk disappeared. From May till October she noted a considerable diminution in her size round the waist.

On pelvic examination, the uterus was found not much, if at all, enlarged, but a large and very tender mass, globular and boggy, was to be felt to the right and behind the uterus, filling up the pelvis.

In the abdomen, moving very freely, but evidently tethered to the front abdominal wall, was a large mass, any movement of which gave rise to pain and discomfort, in which the parts of a child were distinctly made out and diagnosed by Mr. Charles Martin, who registered a complete diagnosis to the effect that it was a case of "ectopic gestation which had gone to the full time, and died on May 8th, the present condition of the child being one of maceration."

I performed abdominal section on October 12th, and at once came upon the umbilical cord, which ran down from the body of the child into the pelvis, and was inserted into a large globular mass which occupied the pelvis. The child was lying loose in the abdominal cavity, except that all its upper surface had become adherent to the omentum and to the anterior parietal peritoneum. The child lay, as described by Mr. Charles Martin, with the head in the left lumbar region and the feet falling down into the pelvis, and the face looking downwards. The only difficulty in removing the child was to separate it from the adhesions to the omentum, and to the abdominal wall, which were really very dense. The child was still enclosed in its membranes, but the liquor amnii had entirely disappeared. The umbilical cord went straight down to a round, smooth, globular mass about the size of a cocoa-nut, which, as I have said, occupied the pelvic cavity and was adherent to surrounding tissues. The question of the removal of the placenta, which this substance really was, occupied my mind for a few seconds. On making tentative efforts to separate the globular mass, I found that it peeled out with considerable ease, very much as a broad ligament cyst would, and after it was separated down to a pedicle which was the cornu of the uterus, it became perfectly evident that the globular mass was the right Fallopian tube.

When the pedicle was divided it presented its characteristic mamillæ. Some very large vessels permeated this pedicle, and it was extremely friable, so I did not venture to deal with it by ligature, but put a temporary clamp on, which clamp was removed after forty-eight hours, the patient making an uninterrupted recovery.

Looking at the preparation and looking at the history, it seems to me that the explanation of the case is very simple. In July the patient had become pregnant, and in September, in about the tenth week of tubal gestation, the tube ruptured, and she had the characteristic illness described by her medical attendant as "peritonitis."

Looking at the Fallopian tube removed, the scar of the rupture of the fœtus was perfectly visible when the preparation was fresh at the point where the umbilical cord was inserted into it. The fœtus alone, enveloped in the amnion, would appear to have been extruded at the time of the rupture, and the entirety of the placenta retained in the tube. After the removal of the placental cyst, the uterus, which had previously been retroverted, was found to rise into its normal position, and behind it, occupying the whole of Douglas's pouch, a mass of old clot and débris was discovered and was carefully cleaned out. This hæmorrhage into Douglas's pouch had apparently occurred but once. It must have been pretty extensive to leave about half a pound of tough, boggy old débris and clot at the bottom of the pelvic cavity lying practically free in the peritoneum. To the fact that it did not recur the patient probably owes her life. The life of the fœtus was preserved by reason of the complete retention of the placenta within the tube, and that seems to be explained by the point of rupture not coinciding with the placental margin, which is not likely to have been the case in this instance, seeing the relation of the umbilical cord to the scar. The retention of the life of the fœtus is also very likely due in great measure to the integrity of the amnion. This point of rupture is certainly exceptional, for in the great majority of instances that I have examined, now nearly a hundred in number, the rupture has generally been by the placental margin or involving the margin, and to this fact I have attributed the extremely fatal character of rupture of a tubal gestation.

It is very interesting to see proved in these cases, what would be assumed as perfectly possible from our knowledge of the distension of the tubes by serum and pus, that they are capable practically of indefinite distension, provided that the process is a slow one and that its risk of rupture is not induced by the enlargement of the vessels and the thinness of the wall necessary in pregnancy. After the tear in the tube had healed, the rate of

development of the placenta would induce a slighter and far less rapid distension of the tube, as the great bulk of the rapidly increasing gestation must be in the growth of the child and in the effusion of amniotic fluid; besides, the destruction of the ovular cavity would practically remove existence of edges from the placenta, and it would come to occupy evenly the whole of the tubular cavity. In this way we can understand why there is no appearance of a secondary rupture.

Further interest is given to the case inasmuch as it shows that a living fœtus, practically not more than ten weeks of age, is capable of resisting the digestive powers of the peritoneal cavity if the amnion is unbroken, whereas it is perfectly certain that this is not the case when the fœtus dies at that age, and even to a considerably later period of its existence if exposed bare to the action of the peritoneum.

A very singular cause of speculation arises from the creation of dense adhesions between the living tissues of the parietal peritoneum and what we must regard as the practically dead tissues of the fœtus. It is difficult to imagine that such an essentially vital process could occur between living tissues and tissues absolutely dead. Something like an illustration of this occurs in Hamilton's sponge-grafting experiments, but there it becomes perfectly certain that it is not a real adhesion, but simply a bracing together of the really living and really dead tissues by the penetration of the sponge cavities by long fingers of living cell-tissue, so that the sponge becomes a sort of trellis-work. There is not any real union, but in this case the union must have been absolutely continuous and cellular. This intra-peritoneal child was, of course, dead as an individual, and dead so far as its physical functions were concerned, although it could not be regarded as absolutely dead tissue. Some kind of low form of vital action must have been going on in it—a conclusion which I think is established by the fact of its resisting decomposition, and the formation of the adhesions.

If this case had been left uninterfered with, there is very little doubt that the outcome would have been a very unsatisfactory and very protracted illness for the mother. Any injury or illness on the part of the mother would have completely destroyed what little power there seemed to be retained in the fœtus of carrying on functions of a kind resembling those of life, and would at once have led to its decomposition and resulting peritonitis.

Even without the intervention of such an accident, it is difficult to see how the woman could have avoided a fatal issue when the digestion advanced towards the loosening of the fœtal bones; for even when this takes place, as we know it often does, in the closed cavity of the broad ligament, the result almost invariably is protracted suppuration and discharge of the fœtal bones through the rectum when the left broad ligament is occupied, and through the bladder if the gestation be on the right side.

The loosened bones would inevitably have dropped into the peritoneal cavity and given rise to much pain of a mechanical kind, even if the patient escaped the great risks of inflammatory trouble.

So far as I know the history of ectopic gestation, this case is unique, in the escape of the fœtus into the peritoneal cavity with absolute retention of the placenta in the cavity of the Fallopian tube. It gives a clear and indisputable explanation of at least one variety of the so-called "abdominal pregnancies," and probably indicates the true solution of all the cases of this variety, very few of which are known. Further, in every particular it points to that great conclusion concerning ectopic gestation which is the fundamental principle of the pathology of these cases which I have advanced—that, initially, all the cases are tubal. Not a particle of evidence has yet been adduced which points to any other conclusion than this, with one apparent exception which has been brought under my notice—a case exhibited at the Berlin International Congress last year, in which the exhibitor

line by an incision of nearly four inches. The nature of the tumour was at once seen to be uterine. The sense of fluctuation increased so that I had no hesitation in plunging a trocar into the body of it, and evacuating from it about six pints of fluid. During the emptying of the tumour the cyst wall contracted exactly like a pregnant uterus as its contents became expelled. When empty it became perfectly evident that the tumour was the uterus, and I therefore clamped it and removed the organ completely. On removal it weighed nearly five pounds. On being laid open it presented the appearance now visible. There was a capsule of pure unaltered uterine tissue nearly three quarters of an inch thick, and from the endometrium there grew large irregular masses varying from one eighth of an inch to an inch in thickness. The cavity contained a large quantity of sloughy material, smelling very badly, as did the contents of the cyst which had been evacuated.

The patient made an easy, rapid recovery. The clamp came off on the twentieth day, and the wound is now quite healed.

S. L—, 42 years of age, began to menstruate at thirteen; was regular without any special characteristics till she was married at sixteen. She had three children, all labours being quite normal. When thirty-seven years of age she began to lose very profusely every month, the period lasting from a week to ten days, without pain; then she discovered that she had some substance in the lower part of the abdomen. She was admitted as an out-patient to the Women's Hospital, and I found a large multinodular myoma reaching above the umbilicus. I removed the appendages on May 13th, 1888. She reported herself on July 26th, 1890 as never having menstruated since the operation, and was perfectly well. On examination the tumour was found to have nearly disappeared. Subsequently to this a metrorrhagia had re-established itself, and she was admitted to the hospital, and the uterine cavity explored in the hope of finding a polypus; but nothing of the kind was discovered, and the intra-uterine surface was

curetted with temporary relief. But the discharge came on as profusely as before in the beginning of the present year, and it became evident that the tumour had again increased in size and had altered very materially in character, having lost its multinodular character, which it had presented very distinctly, and became, as it grew, more and more globular and even. The hæmorrhage became again so profuse that she was admitted to hospital, and on October 12th, 1891 hysterectomy was performed. No trace of ovaries or Fallopian tubes could be found, the traces of the multinodular myoma were very indistinct, and it was perfectly certain that the disease had been practically cured. A large and apparently independent growth had taken place, of solitary ovoid or soft œdematous character, and that had grown up to a height quite as great as the original tumour had reached. The progress of recovery was uninterrupted; the clamp came off on the twentieth day, and the wound rapidly healed.

This case presents in my experience the unique example of the combined presence of the two varieties of myoma. I have never seen a characteristic soft œdematous myoma in the presence of multinodular masses, and I am perfectly certain that the soft œdematous mass which I removed in the process of hysterectomy was not in existence at the time of the first operation. I am also absolutely certain that the multinodular myoma disappeared to at least four fifths of its bulk—a conclusion which is perfectly sustained by the relatively small pieces of multinodular myoma that are presented in the specimen. The growth of the œdematous myoma was watched at intervals, and I have little doubt that it was a perfectly new growth and dates in origin subsequently to the operation performed for the first disease. The case therefore affords another of the numerous pieces of evidence which are accruing in my experience that make me believe that while multinodular myoma is a disease of menstrual life, the soft œdematous myoma is not so, and that, while it may be influenced by the removal of the appendages during

the active part of menstrual life, it is liable to resist that operation, and it will do so particularly when the menstrual activity is diminishing, towards the ages of forty-five and forty-eight. I have abundant evidence to show that these soft œdematous myomata frequently come into existence and complete their growth after menstruation has completely ceased, so that I conclude that the soft œdematous myoma is not a disease of menstrual life, and that the removal of the appendages will in the majority of instances fail to effect a cure, whilst in the case of multinodular myoma this operation effects a cure with perfect certainty in 95 per cent. of all the cases.

Dr. Arthur Johnstone has started a theory that the soft œdematous myoma grows from the endometrium, but I have never seen any specimens at all that supported this conclusion. In every instance that I have seen the capsule of muscular tissue has been continued by a distinct and decidedly thick layer between the endometrium and the inner relations of the tumour, this shutting off all associations of the tumour with the endometrium, and emphatically contradicting all possibility of the endometrium being the source of its origin.

The ease with which these tumours can be dealt with by enucleation from their beds in the muscular tissue is very characteristic of them, and in this they differ very materially from the hard nodules of the multinodular tumour, which, although capable of separation and enucleation, are not so easily thus removed as the others. The enucleation process also demonstrates completely that there is no relation between these tumours and the endometrium.

The second specimen which I show probably represents a distinct disease and an example of what Dr. Johnstone has seen. It is the first of the kind I have ever come across, and is clearly a different disease altogether from the soft œdematous myoma, and grows from the endometrium. It may form one of the exceptional kinds of endometric cancer, but, whether it be

malignant or not, it certainly is growing from the endometrium, and therefore presents perfectly different characteristics from the soft œdematous myoma, which does not so originate, but originates in muscular tissue.

Mr. ALBAN DORAN believed that the "œdematous fibroid" of women who had reached the menopause or passed that epoch was a special form of tumour. Œdematous fibroid, in the sense of œdema of an ordinary fibroid from definite causes, was quite another kind of disease. Thus a partly impacted tumour was sometimes removed by operation; a few hours after its removal it would be found shrunken to half its original size. The impaction had caused true œdema, which of necessity disappeared, for mechanical reasons, after the knife passed through the tissues of the tumour. The "œdematous fibroid" of the menopause was often unaccompanied by any visible cause of œdema. Its vessels might be seen, passing between its surface and its capsule, free from any sign of pressure without or plugging within, whilst its entire mass lay, free from any severe pressure, in the abdominal cavity above the pelvic brim. These tumours did not lose much by draining of their fluid after removal, though, like all soft tumours, they shrank when immersed in spirit.

Dr. WILLIAM DUNCAN asked if the fluid removed from the large cyst in the first case of myoma had been examined chemically, also if the cyst wall had been subjected to microscopical examination, as these cystic myomata have been shown in some cases to consist of greatly dilated lymphatics.

Dr. PETER HORROCKS said that in all probability the word "fibroid" included a group of different tumours. We already knew of differences in the clinical histories of these tumours, and no doubt there was a difference in their pathology. In his own experience he found the ordinary hard fibroid a non-malignant tumour, which but rarely caused death, and then only by an accident, as it were. These tumours might become œdematous, as Mr. Doran had observed, but the œdema was different from that of the so-called soft œdematous myoma.

Dr. HAYES said that abdominal tumours had an odd habit, sometimes, of disappearing and reappearing under the ken even of competent and careful observers. Mr. Tait's teaching for a long time back was clear, viz., that removal of the uterine appendages in the case of the hard fibroid or myoma was frequently followed by its shrinking or practical disappearance, but that in the case of the soft fibroid the operation was valueless. Mr. Tait would now have us believe by this case that not only will the hard fibroid shrink, but the soft myoma will originate and grow after the removal of the uterine appendages. Dr. Hayes had never

known the soft fibroid to originate, though it might continue growth, subsequent to the menopause. He thought Mr. Tait was mistaken, and that the softer fibroid was present when the first operation was performed.

Dr. Leith Napier remarked on the different degrees of hardness found in multiple myofibromata. Doubtless imbibition of fluid leading to œdema of the tissues, and inflammatory changes in the capsule, accounted for conditions differing widely from the degree of hardness generally met with. But if we regarded certain of these soft œdematous fibroids as examples of myxofibromata, and recognised that degenerative cystic changes in these might originate general softening in some instances, and in others cause larger cysts to form in the substance of the growth, it would be a nearer approach to what seemed the true pathology. It was extremely difficult to draw clear distinctions between a soft œdematous fibroma and a true myxofibroma.

He mentioned an illustrative case showing that very hard tumours may quickly become soft in consequence of cystic change. The case was one operated on some months ago; originally it was intended to perform oöphorectomy, hoping by this to influence the rapidly increasing growth of a hard multiple myofibroma. On opening the abdomen the central portion of one of the large nodules was found to be soft and fluctuating—it had undergone mucoid degeneration. Hysterectomy was therefore considered better than oöphorectomy; on removal the tumour consisted of hard fibrous-like lobules, with the exception of the one portion which contained a distinct cyst in its centre, and was evidently undergoing general softening.

Dr. W. S. A. Griffith said there were three well recognised conditions which might cause enlargement of fibroids after the climacteric—first, simple œdema; secondly, liquefaction of the constituent muscle-cells and connective tissue in different parts of the tumours leading to the formation of large and small irregular, cyst-like cavities with ragged walls, and generally associated with calcification of other parts of the tumour; thirdly, the development of true cysts with a smooth glistening wall, but usually without an epithelium.

There was a comparatively rare form of soft fibroid, which grew much more rapidly than the usual kind, and which contained, amongst the bundles of muscle and connective-tissue fibres, a large amount of what appeared to be lymphoid tissue. All these forms he had exhibited at the meetings of this Society, with microscopical sections.

Dr. Lewers thought that probably some tumours were included under the name "fibroid" that had an entirely different clinical history and pathology from the common variety. He had

seen two cases in point, where there were large uterine tumours, composed of a large number of small cysts separated by fibrous tissue. In neither of them was there menorrhagia, nor was the length of the uterine cavity increased, though in one of the cases the tumour reached up to the epigastrium: in this case the menopause had occurred a year previously; in the other the patient was a young woman about twenty.

seems to have died at the first rupture and subsequently become flattened and shrivelled. The liquor amnii became absorbed, this being indicated by the peculiarly wrinkled condition of the fœtal surface of the placenta, and the small size and irregularity of the amniotic cavity.

The most interesting point of this specimen is that the placenta has apparently gone on growing, for it far exceeds in amount that which is normally present with a fœtus in so early a stage of development. It is, in fact, a placenta in the stage of development of the fourth month of pregnancy, while the fœtus is only a seven weeks' fœtus. Spiegelberg gives, as the result of observations on 200 fœtuses, the following measurements by which, from the length of the fœtus, its age may be calculated. At the commencement of the fifth week its length is 1·5 cm. (·6 inch), and increases during each of the following weeks by about ·5 cm. (·2 inch), so that at the end of the eighth week it reaches 3·5 cm. (1·3 inch), and at the end of the third month the body length is 7 cm. (2·75 inches). The fœtus in the specimen measures 1 inch, so that, taking the above measurements as our guide, its death must have taken place during the seventh week, or, in other words, at the time of the first rupture of the tube. All authorities are agreed that there is no distinct placental cake before the third month, the chorionic villi being developed uniformly all round the ovum as a shaggy coat. But we have only to look at the mass of placenta in this case to see that it is a well-defined and well-developed structure, and as large as that found at the fourth month of pregnancy.

In consequence of the small size of the fœtus and the absorption of the liquor amnii, the amniotic cavity is diminutive. This has led to the whole gestation mass appearing somewhat smaller than it otherwise would have done.

This specimen, we think, demonstrates conclusively what Mr. Tait has so frequently urged, namely, that the placenta, after the death of the fœtus, may, in some cases, go on growing and be a source of disaster to the

patient. Had the gestation-mass not been removed by operation, the patient would no doubt have been the subject of a third attack of rupture and syncope, and possibly would have succumbed from internal hæmorrhage—this in consequence, not of the continued development of the fœtus, but of the continued growth of the placenta.

If we consider for a moment, it is not after all such an extraordinary thing that the placenta should sometimes continue to grow after the death of the child. In cases of intra-uterine pregnancy where the fœtus dies prematurely, and is retained *in utero*, a huge placenta is frequently found.

Spiegelberg says, "Simple hypertrophy, *i. e.* great bulkiness of the placenta in comparison to the fœtus, is especially seen in conjunction with dead and above all with macerated fœtuses; it depends upon hypertrophy of the decidua and its prolongations. It appears that the maternal portion of the placenta continues to grow for some time after the death of the fœtus."

This growth of the placenta after fœtal death is no new discovery. It was pointed out in the early part of the eighteenth century by Morgagni, who, in his classical work ('De Sedibus et Causis Morborum'), in discussing cases where a large placenta is found with either a small fœtus or no fœtus, says, "The placenta may grow to an unnatural bulk after the little fœtus is dead (and on that account more likely to elude observation)." (Morgagni, Epistle xlviii, article xxvi.)

In the interesting condition known as "fleshy mole" we find additional evidence in support of our case. Here blood is effused into the structure of the ovum. The fœtus perishes, but the ovum is retained for many weeks or months *in utero*. It is then expelled as a thick fleshy mass. "Part of the membranes or of the placenta retains its organic connection with the uterus. The attached portion of the placenta continues to be nourished, although abnormally. The fœtus may entirely disappear, or it may remain macerated, shrivelled, and greatly altered in

appearance. The effused blood becomes decolourised from the absorption of the corpuscles; and fresh vessels are developed in the fibrin, which increase the vascular attachment of the mole to the uterine walls. The placenta and membranes may go on increasing in thickness until they form a mass of considerable size" (Playfair, vol. i, 282).

The fact which is most suggestive of all is that in the condition known as hydatidiform degeneration of the chorionic villi, in the majority of cases no fœtus can be found; whilst the chorionic villi grow with extraordinary vigour. This clearly proves that the embryonic portion of the placenta possesses inherent powers of growth independent of the continued development of the fœtus. We quite admit that in this case we have to deal with a diseased condition of the placenta and not a normal state; but the whole process of ectopic gestation is itself a morbid process quite as much as is the hydatid chorion.

Hart and Barbour, in their 'Manual of Gynæcology,' give the following case: "Extra-uterine Gestation with Death of the Fœtus, attended by further Growth of the Placenta which led to fatal Hæmorrhage.—The patient had two months' amenorrhœa, followed by three months of irregular hæmorrhages. A tumour as large as a four and a half months' pregnancy was found behind the uterus. It was aspirated, and the patient died of hæmorrhage. After death the uterus was found to be 5¾ inches in length; the gestation sac lay in the pouch of Douglas, and was chiefly occupied by placenta, which was as large as the placenta of the fifth month of pregnancy. The cavity of the amnion contained but little fluid, and the fœtus was only a three months' fœtus. The continued growth of the placenta after the death of the fœtus had led to fatal hæmorrhage."

Dr. Champneys and Mr. Thornton have also brought forward evidence which supports our views. Mr. Strahan points out that if the placenta grows for a time, even after the child has been killed in the pre-rupture stage,

this would be enough to cause rupture of the tube; and thus it is another argument against the use of electricity for the purpose of killing the fœtus, because it does not save the patient even then from the danger of rupture.

Mr. Bland Sutton, in his book on the 'Surgical Diseases of the Ovaries and Fallopian Tubes,' writes, "In the majority of cases the fœtus dies. When this event occurs at the fourth or fifth month there is reason to believe that the placenta may, in some instances, continue to grow instead of undergoing atrophy. At any rate it is quite certain that now and then, in cases of tubal gestation, a blighted fœtus is found attached to a placenta which is not only out of relative proportion to the fœtus, but is absolutely larger than the placenta of a uterine fœtus at the full term."

Dr. W. S. A. Griffith first inquired if Mr. Tait, in describing growth of the placenta, referred to the fœtal or maternal or both portions.

Mr. Tait replied fœtal only.

Dr. W. S. A. Griffith then stated what a difficult task was attempted by those who held similar views, namely, to satisfy themselves at least that the fœtal placenta, a part of the fœtus, continued to grow after the fœtus itself was dead. In the first place, it must be remembered that there was greater variety in size in extra-uterine even than in intra-uterine placentæ, and very large ones were well known in cases in which post-mortem growth was impossible. Indeed, there was a reasonable explanation for such large placental development in the absence of the decidua reflexa, and in the probable greater difficulty of fulfilling its functions, owing to the imperfect formation of the maternal portion. Again, we ought to have undoubted proof of intra-uterine post-mortem growth in cases where the chorion remained attached to the uterus for some weeks, but all the evidence on this point was certainly against the occurrence of any such growth. The cystic degeneration referred to as evidence could not be accepted in the face of this fact; besides, enlargement of villi due to such degeneration was not growth. Mr. L. Tait did not refer to the rare myxoma fibrosum of the chorion, which, so far as Dr. Griffith knew, was the only strong point in favour of the theory, and even that could not be said to have been proved to occur after fœtal death.

Dr. Peter Horrocks believed it possible for the chorionic

villi or placenta to grow after the death of the fœtus. He thought it would be difficult to account for the relative smallness of the fœtus, in certain cases of both extra- and intra-uterine gestation, on any other hypothesis. When the fœtus was dead it could get no nutrition for itself owing to the cessation of circulation; but the chorionic villi were in a different position. They were embedded in maternal structures either in the uterus or outside it. It was very conceivable that they might derive nutrition from the vessels of those structures, and it was quite certain that they did so in the case of hydatidiform degeneration where there was great increase in growth, the nutrition for which must come from the maternal vessels, inasmuch as the fœtus in most cases was dead from quite an early period of gestation. He mentioned a case on which he had operated, where the fœtus had died so early as to be undiscoverable, and yet where the tumour had continued to increase in size, apparently by growth of the chorionic villi.

JULY 6TH, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—25 Fellows and 4 Visitors.

A book was presented by Dr. de Havilland Hall.

The following gentlemen were elected Fellows of the Society :—William McAdam Eccles, M.B., B.S.Lond. ; William John Mackay, M.B., M.Ch.Sydney (Sydney) ; Samuel Walshe Owen, L.R.C.P.Lond. ; and William Bramley Taylor, M.R.C.S. (Denmark Hill).

The following gentlemen were proposed for election :—Charles William James Chepmell, M.D.Brux. (Brighton) ; and John Benjamin Hellier, M.D.Lond. (Leeds).

CANCER OF THE BODY OF THE UTERUS.

By ARTHUR H. N. LEWERS, M.D.

DR. LEWERS showed a uterus removed by vaginal hysterectomy for primary cancer of the body. The immediate result was quite successful, and at the present time, over three months since the operation, the scar was quite sound, and the patient in good health. As he proposed to record the full details of the case when two years had elapsed without recurrence, or earlier if recurrence should have taken place, he only brought forward

the specimen at present as one of considerable interest as a specimen. A section was exhibited under the microscope, showing the growth to be a typical columnar epithelioma.

Dr. Horrocks asked if ligatures were used during the operation to any portion of either broad ligament.

Dr. Lewers in reply said no ligatures were used in the case, only pressure-forceps, which had been left on for forty-eight hours.

SPECIMEN OF DOUBLE OVARIAN APOPLEXY FROM A CASE OF ACUTE PERITONITIS.

By H. A. Des Vœux, M.D.

Dr. Des Vœux in his remarks said that the specimen was taken from a girl aged 23, single, who had a long history of unrelieved dyspepsia. Her menstrual history, as far as could be ascertained from her mother and a friend, had always been normal, and her last menstruation had ceased a week before death. The patient was found in an extreme state of collapse on May 18th, with a history of sudden acute pain commencing twelve hours previously. The pain was referred to the epigastrium; there was none in the pelvis.

The patient died twenty-four hours after the onset of acute symptoms. A ruptured gastric ulcer had caused acute peritonitis, of which there was little sign in the pelvis. The ovaries were normally situated; their surface was smooth and irregular, and presented numerous purple prominences. The general colour was of a deep pink. On section the ovaries appeared to be deeply injected and showed numerous hæmorrhages (the largest about the size of a small cherry) which seemed to be follicular. The tubes were injected, swollen, and soft; the ostia were patulous. A small amount of thin muco-

pus was in the tubes. There was a muco-sanguineous discharge in the cavity of the uterus, whose mucous membrane looked normal. On microscopical examination of the ovaries, the hæmorrhage was found to extend throughout the whole of their stroma.

AN OVARIAN HYDROCELE CONTAINING PAPILLOMATA.

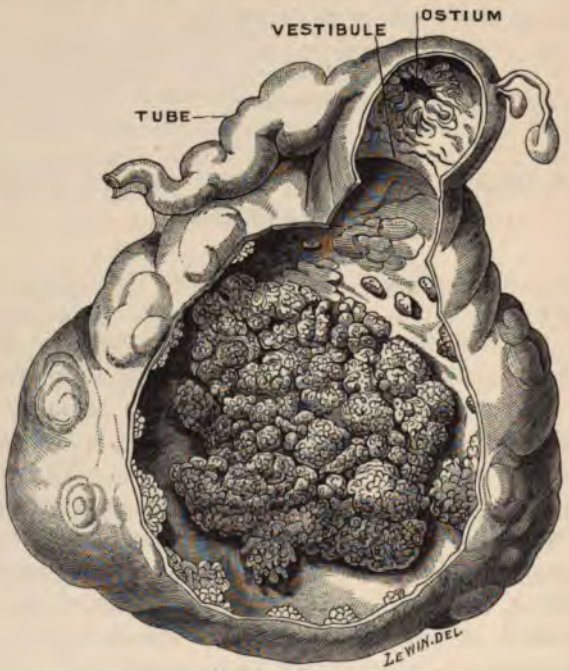
By J. Bland Sutton.

The specimen is an example of that variety of cyst to which I have ventured to apply the term ovarian hydrocele. In this instance the cyst is as large as a cocoa-nut, which it also resembles in shape. Lying upon the crown of the cyst is the Fallopian tube. The uterine section of the tube is of natural size, but on approaching the crown of the cyst it becomes gradually dilated, and finally opens into the cyst by a large circular aperture, from which the folds of the mucous lining of the tube radiate and are imperceptibly lost on the walls of a tubular chamber, which seems to form a sort of vestibule to the large cyst. In these points the specimen does not differ from other described examples of ovarian hydrocele. The most remarkable feature of the cyst is the presence upon the inner walls of large masses of papillomata identical with those met with in typical paroöphoritic cysts. I failed to find any trace of the ovary.

The tumour was removed by Mr. Henry Morris from the right broad ligament of a woman fifty-seven years of age. The left broad ligament contained a typical paroöphoritic cyst. The most noticeable point in the clinical history was a sudden and rapid increase in the size of the cysts.

On several occasions I have watched patients with

abdominal tumours awaiting their turn to come into hospital, when they have been seized with great abdominal pain, and the tumour has undergone such sudden and



An ovarian hydrocele containing papillomata.

rapid enlargement as to induce the surgeon to believe that the tumour has undergone axial rotation. At the operation a papillomatous cyst has been found, but nothing to account for its sudden increase in size.

TUBAL PREGNANCY; RUPTURE INTO BROAD LIGAMENT; OPERATION; RECOVERY.

By J. Bland Sutton.

Early in May I saw, in consultation with Dr. Clegg, of Stratford, Mrs. L—, who was suffering great pain in consequence of a swelling which occupied the left iliac fossa.

The patient was thirty-five years of age, and had been married thirteen years. She had never been pregnant. Throughout the whole of her married life she had never missed a period till January, 1892; since that month she had not seen anything. In March she was seized with sudden acute pain in the pelvis. A doctor was summoned, and pronounced the trouble to be hysteria. She then began to have difficulty in passing urine, and pain during defæcation. Towards the end of March she perceived a swelling in the lower abdomen, more on the left than the right side. This slowly increased in size, and as the swelling became larger the pains became so severe as to cause her to keep her bed.

On examining the patient I found a large tender swelling on the left side of the abdomen, and extending into the iliac fossa. Vaginal examination revealed a large swelling to the left of the uterus, and presumably in the broad ligament. The uterus, somewhat enlarged, was pushed to the right, and seemed tethered to the swelling. There were no breast signs.

From these signs I came to the same conclusion as Dr. Clegg, namely, that the patient was the victim of tubal pregnancy. In the course of the next ten days the swelling had obviously increased in size, and there was more suffering, so she was sent into hospital.

On May 25th I opened the abdomen, and found the

swelling to occupy the left broad ligament. I incised its summit, a proceeding which was followed by a rush of arterial blood. The clot, fœtus, and placenta (fourth month) were quickly removed and the cavity stuffed with sponges. The edges of the sac were carefully stitched to the lower angle of the abdominal wound, the fragments of placenta removed, and a glass drainage-tube inserted. There was free oozing for about twenty hours. I gave explicit instructions that if the patient passed any clots from the vagina they were to be kept. About thirty-six hours after the operation the patient complained of frequent pains and became restless, and in a few hours passed a large clot. This I carefully teased out; it proved to be a complete uterine decidua. There is a large orifice corresponding to the mouth of the uterus, and a small circular opening at each angle of the sac where it communicated with the Fallopian tubes. The patient made an admirable convalescence, and left the hospital thirty-three days after the operation.

Mr. Alban Doran admitted that certain tubo-ovarian cysts might be termed "ovarian hydrocele" in the sense understood by Mr. Sutton, who had introduced the term. Diagnosis of "ovarian hydrocele" was hardly possible. Some of the specimens from St. Thomas's Hospital which Mr. Doran exhibited before the Society in 1887 ('Transactions,' vol. xxix, p. 302) were probably ovarian hydroceles. These cysts were subject to attacks of recurrent inflammation. In a case related by Mr. Doran before the Pathological Society in 1888 ('Trans. Path. Soc.,' vol. xxxix, 1888, p. 200) the patient suffered from pelvic pains for many years before the tumours, cystic degeneration of both appendages, were removed. Indeed, seven years before operation she had been under the care of Dr. Hayes, who detected a tumour. These cysts were possibly "ovarian hydroceles," though there was no communication between the cystic ovaries and the cystic tubes. Mr. Doran maintained, however, that the great majority of tubo-ovarian cysts arose from the fusion of tubes and ovaries which had undergone cystic degeneration after long-standing inflammation.

Dr. Leith Napier remarked on the importance of the papillary growths inside the cyst. He asked if any microscopic examinations had been made. Were the growths benign?

Macroscopically the appearance was colloid-like. Had any papillæ been seen elsewhere than in the interior of the cyst? Referring to Mr. Doran's remarks, he recognised how valuable Mr. Doran's opinion was on all pathological questions; still it would be difficult to accept the suggestions now made without further elaboration; doubtless on some future occasion Mr. Doran would recur to the subject at greater length.

Mr. ALBAN DORAN stated, in reply to Dr. Leith Napier, that a series of preparations in the museum of the College of Surgeons clearly demonstrated the fusion of tubes and ovaries which had become cystic after long-standing inflammation. He had described this change, at some length, in a memoir read before the Pathological Society in 1887 ('Trans. Path. Soc.,' vol. xxxviii, p. 241). In a paper published four years later, Drs. Schramm and Neelsen showed that, in the course of independent observations, they had marked the same changes ('Zur Kentniss der Tubo-ovarialcysten," 'Archiv f. Gynäk.,' vol. xxxix, 1891).

TWO CASES OF PYOSALPINX.

By CHARLES J. CULLINGWORTH, M.D.

Dr. CULLINGWORTH exhibited two specimens of pyosalpinx removed by abdominal section.

CASE 1.—The first was a good example of gonorrhœal pyosalpinx from a woman, aged 23, who was married in February, 1890, and a fortnight later noticed a yellow vaginal discharge, with pain on micturition, for which she attended St. Bartholomew's Hospital as an out-patient for four months. In October, 1890, she gave birth to a dead fœtus at the seventh month. Her second child was born February 11th, 1892, five weeks before the expected time; it only lived twenty-four hours. A fortnight afterwards the patient, who had been up for two days, had to return to bed on account of severe shooting pain in the lower part of the abdomen and in the left leg. She was in bed for twelve weeks, and was then admitted to St. Thomas's Hospital, where she remained for about twelve days,

improving so much that at the end of that time she declared herself quite well. On reaching home, however, the pain returned, and, as it continued to get worse, she was re-admitted to the hospital June 13th, 1892. On examination under ether a not very hard, irregular mass was felt in Douglas's pouch, closely adherent to the upper part of the cervix uteri. The mass apparently consisted of the right uterine appendages, displaced, inflamed, and adherent. Nothing abnormal was discovered on the left side.

Abdominal section was performed on June 23rd. The pelvis was roofed over by adherent intestine and omentum, and the pelvic contents were densely matted together. The right tube was traced out for a short distance from the uterus. It then turned backwards and ran downwards and inwards to the floor of Douglas's pouch, where it was inseparably connected with another harder swelling. The whole was separated and brought within view. The whole tube was irregularly thickened, elongated, and adherent. Up to the point where it joined the flatter and harder swelling, its colour was deep red. The harder portion of the mass had entirely lost its colour, and looked as if it had been long immersed in spirit. Its appearance was very misleading. The impression at the time was that it consisted of the left tube, with its mesosalpinx, much altered by chronic inflammation, and so firmly adherent to the distal end of the right tube that it had been torn away from its uterine connections. It was found subsequently, on opening up the specimen, that what had been thought to be the tube and mesosalpinx of the opposite side was an old, thick-walled, abscess-cavity formed by a sudden dilatation of the right tube itself, close to its distal end. The pouch was shut off from the remainder of the tube, and was lined by blood-stained granulation tissue. The straighter part of the tube was lined by acutely inflamed and œdematous mucous membrane, not ulcerated. Both the tube and its pouch contained purulent fluid. The tube embraced

within its fold a cystic ovary the size of a pigeon's egg. A coil of small intestine had become firmly united to the tube by a parchment adhesion ¾ inch in diameter. This was carefully separated, and the denuded surface of intestine folded in upon itself and secured in that position by four fine silk sutures drawing together its opposite margins.

The tube and pouch, with the adjacent ovary, were then ligatured and removed.

The left ovary was felt of normal size and consistence, wrapped up in a mass of adherent intestine and broad ligament. It was not disturbed. The left tube was not made out.

There being a good deal of oozing from the adhesions, the peritoneum was well irrigated with hot boric acid solution, and a glass drainage-tube was inserted and kept in for twenty hours.

Recovery had so far been uninterrupted; the temperature had never reached 100°, and after the first three days had been uniformly normal. The portion of tube removed measured, with the pouch, 6¾ inches long. The pouch itself measured 2 × 2½ inches.

Case 2.—The second specimen was from a woman aged 31, who had had four severe attacks of pelvic inflammation since her marriage, nine years ago; the last attack commencing suddenly on May 30th, 1892. There was no evidence as to the cause of the inflammation. The patient had an abortion at the age of eighteen, but since her marriage had not been pregnant. There was no distinct history of gonorrhœa.

On admission to St. Thomas's Hospital, June 16th, 1892, the uterus was found displaced to the left side by a soft irregular swelling, filling up the right posterior quarter of the pelvis, and passing inwards behind the cervix. The mass was divided by a sulcus running transversely along the whole length of its under surface.

Nothing abnormal was detected on the left side. The diagnosis was right pyosalpinx.

On June 24th the abdomen was opened. The contents of the right side of the pelvis were matted by recent adhesions in front, and by old and very dense adhesions behind and below. For some time it was impossible to differentiate the diseased parts. Eventually a greatly enlarged, elongated, tortuous, and distended right tube was shelled out without rupture and brought to the surface sufficiently to be tied off and removed, along with the adjacent ovary, which was adherent but otherwise normal. No definite enlargement of the left appendages could be detected, and, as they were involved in a mass of adherent intestine, they were not disturbed.

The whole mass removed measured $3 \times 1\frac{7}{8}$ inches. The length of tube involved was $6\frac{1}{2}$ inches. The tube was occluded at its abdominal extremity. The diameter of its dilated outer portion was $1\frac{1}{8}$ inch; of its inner portion $\frac{1}{2}$ inch. It was filled with pus. As it was being hardened for preservation in the museum, it had not yet been laid open.

The patient was going on exceedingly well, the temperature since the operation never having exceeded 100°. The drainage-tube was removed in forty-five hours. The bowels were relieved by enema on the third day, and again on the sixth and seventh days. The stitches were removed as usual at the end of a week.

Dr. Hayes did not think that the facts were at all sufficient to support Dr. Cullingworth's conclusion that the pyosalpinx was due to gonorrhœa. Allowing that the patient had had gonorrhœa, we should have to believe, if the conclusion were true, that the infective matter was transmitted by the endometrium to the mucous membrane of the Fallopian tube, and that either the endometrium escaped infective inflammation or was quickly freed from its effects, and immediately permitted conception and gestation, whilst the lining membrane of the tube was infected and permanently disabled.

Dr. Cullingworth, in reply, said he was quite prepared to admit that the evidence of gonorrhœa in the specimen shown

to-night was not absolutely conclusive, and he could quite understand that it was insufficient to convince sceptical minds. He should shortly publish several cases, however, in which he had removed purulent tubes from patients who were actually suffering from gonorrhœa at the time of the operation, and in which, therefore, the evidence was more nearly complete. He had himself no doubt that gonorrhœa was, next to sepsis, the most fruitful source of suppurative salpingitis. With regard to the possibility of pregnancy occurring in the subject of a pyosalpinx, it must be remembered that the uterine mucous membrane was in a much better position for recovery than the lining of the Fallopian tube, because, in the case of the uterus, there was a means of free exit for the discharges, while in the Fallopian tube there was not. It was the absence of natural means of drainage that made suppurative inflammations of the Fallopian tube more serious than similar affections of any of the other mucous membranes in the body. In reply to Mr. Bland Sutton he was afraid that the pus in these specimens had not been microscopically examined.

MYOMA OF THE CERVIX UTERI.

By Charles J. Cullingworth, M.D.

Dr. Cullingworth exhibited a specimen of myoma of the posterior wall of the cervix, two inches and a half in diameter, removed by enucleation *per vaginam*.

KNITTING-NEEDLE USED TO PROCURE ABORTION.

By William Duncan, M.D.

Dr. William Duncan showed a knitting-needle, nine inches long, which an unmarried girl, six months pregnant, thrust through her umbilicus into the uterus, in order to procure abortion, having previously attempted

unsuccessfully to bring about this result by thrusting the needle up *per vaginam*. Two days after the needle had been passed in, Dr. Duncan was telegraphed for, and in his absence his colleague, Mr. Pearce Gould, went and performed abdominal section. After the abdomen was opened just the tip of the needle was found projecting from the fundus uteri; it was seized with forceps and removed, a stitch being inserted into the uterine puncture, as there was some hæmorrhage. Two days later, notwithstanding the use of opium, the patient miscarried, and a black speck was seen on the child's buttock, where apparently the needle had penetrated. The woman made an uninterrupted recovery.

Dr. Leith Napier asked how far the pregnancy had advanced, and if viable, was the child born alive?

Dr. Heywood Smith said that with regard to knitting-needles being used to procure abortions, he once knew a lady, now dead, who brought on abortion thirty-five times with a knitting-needle, and he was sent for several times to her for severe flooding.

ON MENSTRUATION IN CASES OF BACKWARD DISPLACEMENT OF UTERUS.

By G. Ernest Herman, M.B.Lond., F.R.C.P.,
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(Received June 11th, 1891.)

No one will dispute that alterations in menstruation sometimes occur with backward displacements of the uterus. But very different opinions have been held as to the relation between the displacement and the menstrual changes. Some have doubted whether the relation was more than coincidence. Some have held that the relation was that of cause and effect; but even among those united in this opinion there is not agreement as to the frequency with which the displacement produces these changes.

I have in a former paper ('Trans.,' vol. xxxiii) given reasons for speaking of retroversion and retroflexion of the uterus as "displacements." In another paper ('Trans.,' vol. xxiv) I have discussed their relation to menstrual pain. In the present communication I bring forward some further facts, the consideration of which I hope may help to give precision to our knowledge.

I propose to consider two questions—

1. What are the alterations in menstruation that occur with backward displacements of the uterus?

2. What reason is there for thinking them effects of the displacement?

This communication is based upon notes, more or less detailed, of the condition of menstruation in 388 cases of backward displacements of the uterus, taken without

any selection, from the out-patient department of the London Hospital. I might have made this number larger by adding to them notes of in-patients, or of out-patients selected for note-taking for special reasons; but to get a correct idea of the frequency of different changes I restrict myself to a period during which I have notes of every case without selection. I have omitted only a few cases in which from haste the notes are too imperfect to be of any use.

1. *As to Quantity.*

I. I find 78 cases in which the patients were not menstruating, or 20·1 per cent., about one fifth of the whole number.

These cases may be divided into four groups:

1. Thirteen cases in which the patient described the symptoms, and the uterus presented the signs, of early pregnancy.

2. Forty cases in which the patient had recently given birth to a child, or aborted, or was suckling, and had not menstruated since the delivery or abortion.

The length of time between the abortion or delivery and the patient's application for treatment was as follows:

A. Six cases following abortion :—1 nine days, 2 three weeks, 1 a month, 2 three months.

B. Thirty-four cases following delivery. Twenty-three within three months :—1 five weeks, 4 six weeks, 1 seven weeks, 10 two months, 7 three months. Eleven after more than three months :—2 five months, 1 six months, 2 seven months, 1 nine months, 2 eleven months, 2 twelve months, 1 fifteen months.

It will be seen that of these patients two thirds applied for treatment within the first three months after delivery.

3. Twenty cases in which the patient had passed the menopause. The age at which menstruation ceased in

these patients was as follows :—1 at thirty-seven, 1 at forty-two, 1 at forty-three, 2 at forty-four, 1 at forty-five, 5 at forty-seven, 3 at forty-eight, 5 at forty-nine, 1 at fifty. Average 46·4 years.

4. Five cases in which the amenorrhœa was due to pathological causes. These were :—1 imperfect development of uterus, 1 superinvolution, 1 bad hygienic conditions (prostitute, aged 17), 1 mental shock, 1 undiscovered—probably premature menopause (patient aged 28).

It will be clear that in none of these cases could the absence of menstruation be attributed to the displacement, and therefore that in them the displacement exerted no effect whatever upon the menstrual function.

II. I find seventeen cases in which not only was no alteration in menstruation complained of by the patient, but in answer to special inquiry she stated that there had been no change in the *quantity* of the flow.

We have therefore ninety-five cases, or 24·4 per cent., in which it is quite certain that the displacement did not modify the amount of the menstrual flow.

III. In 152 cases out of 310 I have merely a note as to the quantity of the menstrual flow, but no statement as to any recent alteration. Some of these patients may have been asked whether the quantity had or had not been altered, but I have not a distinct record that the inquiry was put in this form. All I can say is, that none of them mentioned any alteration, but that it is possible that closer inquiry might have elicited that there had been increase or diminution in some of these patients. But women do not usually underestimate the importance of changes in the menstrual function ; and therefore I think it probable that if in many of these patients a marked alteration in the quantity of the catamenial flow had been present, most of them would have mentioned it.

There is no way that can be applied in practice of accurately measuring the amount of blood lost, and

therefore we are obliged to take the statements of patients, as to whether they lose much or little, as correct (except, of course, in cases in which the hæmorrhage is sufficient to produce anæmia and be called flooding). If we assume that women are acquainted with what the average amount is, take this as a standard, and state correctly in what way their own loss differs from it, we should expect to find (the standard being the average of the whole) as many departures from the normal in one direction as in the other. The following figures nearly accord with this expectation.

Of the 152, in 63 menstruation was said to be scanty, in 66 profuse, in 16 moderate, in 7 variable.

There is a little preponderance of the patients whose flow was profuse. I shall presently show that the most common variation is that the flow is increased; and this preponderance may indicate that in some of these women the flow had been increased, although they did not mention it. But the number of such must have been small.

Putting all these figures together, we have 95 in which there certainly was no change, and 152 in which none was complained of; in all, 247 cases, or 63·6 per cent., in which probably the displacement produced no effect upon the amount of the flow.

IV. In 141 cases the patient stated that the quantity of the flow had lately changed; in 18 the amount was diminished, in 46 increased; in 77 there was hæmorrhage not conforming to the monthly type. In one of these there was probably cancer of the body of the uterus, and in two others small fibroids; these I leave out of account in what follows.

Of the 74 which remain, in 20 cases hæmorrhage had been continuous, or nearly so, since delivery; in 19 the hæmorrhage had been continuous, or nearly so, since abortion; in 32 the hæmorrhage had been separated by an interval of apparent health from the termination of the last pregnancy; in 3 the patient had never been pregnant.

So that in the 141 cases in which the quantity of the menstrual flow was altered, in 123, or 87·2 per cent., the alteration was in the direction of increase, either in quantity, frequency, duration, or in more than one of these respects.

Taking all the patients who were menstruating, and assuming that when no menstrual change was mentioned it was because none had been observed, we have 123 cases out of 310, or 40 per cent., as the lowest possible estimate of the frequency of increased hæmorrhage.

What reason is there for thinking that this hæmorrhage is the result of the displacement? Most diseases of the uterus have some effect upon menstruation, and so do many alterations in health in which the uterus is not the part chiefly involved. In the class of patients in whom backward displacements of the uterus are chiefly found, increase of the flow is a commoner symptom than its diminution. Is the frequent increase in the flow in patients with retroversion and retroflexion of the uterus entirely due to conditions which occur also in women without displacement, or is it an effect of the displacement?

How might it be proved to be an effect of the displacement? The most satisfactory mode of proof would be by a demonstration of changes in the endometrium disposing it to bleed, and not occurring, or not occurring with the same frequency, in patients without displacement. Till such a demonstration has been supplied, our knowledge of the effects of displacement must be admitted to be incomplete. Such a demonstration must be long in appearing, for two reasons:—(1) that displacements are not fatal, and are not diseases of such gravity as to require removal of the uterus, and therefore specimens available for the purpose are only seldom to be had; and (2) our knowledge of the changes which take place in the healthy uterus during the menstrual cycle is as yet too incomplete to enable us to assert of many slight changes that might be found, that they are pathological. Practical proof might be given by the effect of treatment. If it were found (1)

that hæmorrhage from uteri displaced backwards was invariably or in a large proportion of cases stopped by elevating the uterus without other treatment, and (2) that all treatment which did not include elevation of the uterus was unsuccessful, then the effect of displacement in producing hæmorrhage would be scarcely controvertible. But I know of no one who has brought forward evidence of this kind, nor am I able to do so; because (1) in the treatment of hæmorrhage most practitioners think it their duty not to omit anything which may help to stop bleeding, and therefore this experiment cannot be systematically carried out; and (2) in many cases—indeed, in almost all—the hæmorrhage sooner or later stops, whether treated or not; and the question is whether it lasts longer and recurs sooner, more often, and more copiously, in patients treated without lifting the uterus than in those in whom the uterus is supported. To determine this, observation over a long period of time is required, and long continuance of unsuccessful treatment would so often lead to the withdrawal of its subject from the experiment that the observations might be fragmentary.

The general impression which experience has left on my mind is that hæmorrhage in cases of backward displacement of the uterus stops sooner in cases in which the uterus is kept supported than in those in which it is not. But I am not able to adduce evidence of scientific value to show that this is the fact. If the hæmorrhage be not the result of the displacement it must be due to the coincidence with the displacement of causes which would produce similar hæmorrhage if the uterus were in normal position. We have seen that 40 per cent. of the patients with retroversion or flexion of the uterus complained of hæmorrhage. If this be due to coincidence, we ought to find that among patients of the same class, not the subjects of uterine displacement, hæmorrhage was also present in 40 per cent.

To make this comparison the difficulty is to get a group of patients of the same class to put beside that of the

patients with retroversion and retroflexion. We cannot fairly compare the cases of displacements with the general average of patients, because it includes cases of cancer, polypi, fibroids, hæmorrhage connected with pregnancy—conditions not present in the cases with displacement from which my figures are compiled. On the other hand, it also includes women not menstruating from physiological causes, or seeking advice on account of amenorrhœa. What we want to know is the frequency of uterine hæmorrhage in menstruating women, not pregnant and not the subjects of evident organic disease; in patients with retroversion and retroflexion, and in patients without these displacements, respectively. It must be perfectly obvious that (unless retroversion and retroflexion of the uterus inhibit every other cause of uterine hæmorrhage, and this no one has yet asserted) in a considerable proportion of cases of retroversion and retroflexion there must be hæmorrhage, not due to the displacement, but to other accidentally concomitant conditions. But if backward displacements of the uterus have any effect at all in producing hæmorrhage, this symptom ought to be more common in cases of backward displacement of the uterus than in patients generally.

I have gone through my out-patient case-books and noted the cases complaining of abnormal or increased hæmorrhage. I have excluded cases of cancer and of fibroids, for they are equally excluded from my tables of cases of displacement. I have excluded also women who were pregnant or suckling, or had passed the climacteric, for they are also excluded from the lists of displacements on which my estimate of the frequency of hæmorrhage is founded. I have also excluded cases of single women under twenty-five, for they are but little liable to displacements, while chlorosis and other conditions leading to amenorrhœa are frequent among them, and hence their inclusion would unduly diminish the apparent frequency of conditions which cause hæmorrhage.

These cases being excluded, I have taken 500 consecu-

tive patients without any other selection. I find that 146 of these complained of hæmorrhage, or 29·6 per cent.

Emmett* gives a table showing what he considers to have been the "effect" of cellulitis upon menstruation. As inflammation of cellular tissue *per se* has not been shown to have any special effect upon the uterine mucous membrane, Dr. Emmett's figures to my mind indicate the number of times that morbid conditions causing hæmorrhage were coincident with pelvic cellulitis, and that they therefore, like my 500 out-patients, may give us some help towards estimating the frequency of such conditions among patients generally. (I am unable to understand from the tables how Dr. Emmett's percentages are got at, but I take them on his authority as correct.) He found out of 303 cases the quantity of menstruation increased in 17·36 per cent., its duration in 11·45 per cent. These taken together give us abnormal hæmorrhage in 28·81 per cent., very nearly the same proportion as in my 500 out-patients.

I conclude, therefore, that abnormal hæmorrhage from the uterus is more frequent in patients with backward displacement of the uterus than in patients generally. Taking, on the basis of my cases and those of Emmett, 30 per cent. as about the proportion of the average of patients in whom the minor causes of abnormal hæmorrhage are present, and assuming that these causes will be present as frequently in patients with displacements, we have left about 10 per cent. as the proportion of cases in which the hæmorrhage is probably caused by the displacement.

Winckel† has given figures in the form of percentages to show the condition of menstruation in retroversion and retroflexion of the uterus. (He does not explain how the percentages are obtained, but I take them on his authority as correct.) He does not state whether menstruation was increased or diminished, but merely whether

* 'Gynecology,' 1st ed., p. 265.

† 'Die Pathologie der Weiblichen Sexual Organe,' Leipsig, 1881, s. 128.

it was scanty or profuse. He found 55 per cent. in whom it was profuse, 25 per cent. in whom it was scanty. I find out of 152 patients who mentioned no alteration it was profuse in 66, and in 141 who complained of alteration that it was increased in 123. In all, profuse in 189 out of 293, or 64 per cent. I find that out of those who did not mention an alteration it was scanty in 63, and of those who did, diminished in 18. Total 81, or 27 per cent. These figures do not differ to a great extent from those of Winckel.

It has been stated that displacements of the uterus are among the causes of the condition known as "chronic metritis." In this disease, it is said, menstruation is at first profuse, and then, as the lymph supposed to be exuded develops into fibrous tissue, and this tissue shrinks and compresses the vessels, menstruation becomes scanty. I do not find among my cases any whose clinical history bears out this statement, and therefore I conclude that such a sequence of changes, at least in a marked degree, is not common among patients with retroversion and retroflexion. Of course it is possible that it may have occurred, and patients may not have mentioned it. If this were so, and if it were a usual and regular course of events, the average age of patients whose menstruation had diminished in quantity ought to be higher than that of those in whom the flow had become profuse. I find the average age of the 18 patients in whom the flow had diminished was 31·6, that of the 46 patients in whom it was increased 30·8. This difference is in accordance with the theory I have adverted to, but is hardly enough to be demonstrative.

The conclusions to which my analysis of these cases leads me are briefly these:—

1. *As to Quantity.*

1. In one fourth of the cases there was amenorrhœa, accounted for by causes irrespective of the displacement,

and this amenorrhœa was not altered by the displacement.

2. In about three fifths of the whole, there was no alteration in the quantity of the menstrual flow.

3. In half of those who were menstruating, there was no alteration in the quantity of the menstrual flow.

4. In about 40 per cent. of those who were menstruating, hæmorrhage was increased.

5. That in patients generally, the frequency of incidence of causes of hæmorrhage, other than gross organic disease and pregnancy, is probably about 30 per cent.

6. That therefore the proportion of women with backward displacements who suffer from abnormal hæmorrhage is larger than that among women whose uteri are in normal position; and this justifies the belief that in a small proportion of cases, probably about 10 per cent., the displacement is the cause of the hæmorrhage.

2. *As to Pain.*

In a former paper ('Trans.,' vol. xxiv) I have criticised the theories as to the mode in which retroversion and retroflexion of the uterus produce menstrual pain. In that paper I adduced some clinical evidence, based on the effect of treatment, to show that menstrual pain may be produced by these displacements; and I assumed that this clinical fact was sufficiently proved. I do not propose here to go over that ground again. I shall here only adduce some facts to show the frequency of the association of menstrual pain with backward displacement of the uterus.

In estimating the frequency of menstrual pain with backward displacements of the uterus, I eliminate first of all those who were not menstruating, and those whose hæmorrhage did not conform to the monthly type. These removed, 226 cases are left. In ten of these I have no record as to whether there was or was not menstrual pain. These deducted, there remain 216 women

who were menstruating regularly, and as to whom I have notes whether menstruation was or was not painful.

Of the 216 patients, 44 had no pain, or 20·3 per cent., 172 had more or less pain; of these 62 said their pain was severe; 24 said their pain was slight; in 86 I have only a note that there was pain, but no account of its severity. In 82 the menstrual pain had either been recently acquired, or the customary menstrual pain recently increased, or 36·3 per cent.

Broadly speaking, in only one fifth of the cases was menstrual pain absent, and in more than one third of the cases menstrual pain had been recently acquired.

In a paper published in our 'Transactions,' vol. xxi, I related an inquiry into the frequency of dysmenorrhœa with anteflexion. For the purpose of that paper, I inquired into the amount of menstrual pain in 110 women, nearly all of them nulliparæ, and most of them prostitutes, and about one fourth of them the subjects of anteflexion, which many persons at that time regarded as a potent cause of dysmenorrhœa. It is well known that dysmenorrhœa is often cured by childbearing. In these cases, therefore, it is probable that the amount of dysmenorrhœa was greater than in the general average of women. Of the 110, 42, or 38 per cent., menstruated without pain, or nearly twice as many in proportion as among the patients with backward displacements of the uterus, although the majority of the latter were parous women.

These figures are sufficient to show that pain at the menstrual period is more frequent in patients with retroversion or retroflexion of the uterus than in the general average of healthy women, and the natural inference is that the displacement is the cause of the pain.

The question arises, what is the pain? The term "dysmenorrhœa" is widely used in the sense of pain at the menstrual period. Some more accurate writers, the most conspicuous of them being the late Dr. Matthews Duncan, confine it to pain actually produced by the

uterine contractions which expel the flow. In some of the cases from which my figures were taken I have no doubt that the menstrual pain did consist in abnormally painful uterine contractions. In others it was simply an aggravation of the bearing down, &c., which the patients felt at all times; and in yet other cases, pain of other kinds. The data at my disposal are not complete enough to enable me to say in what proportion each different kind of pain contributed to the total number of cases of pain at the menstrual period.

Assuming that we are correct in believing that displacement of the uterus backwards produces or increases menstrual pain, the question suggests itself whether the pain is modified by the amount of blood lost?

On *à priori* theoretical grounds an explanation might be found whether the patients with increased, or those with diminished, flow suffered the more. If those with copious menstruation had more pain, it might be argued that those with increased hæmorrhage, who form the majority, represent the alteration due to the displacement, while in the few with diminished menstruation the diminution is due to some accidentally concomitant condition; that the increased menstruation represents disturbance of circulation, and that this disturbance would be expected to cause pain as well as hæmorrhage. On the other hand, if those who lost copiously were comparatively free from pain, it might be said that the hæmorrhage lessened congestion, and thus relieved pain.*

Bringing the question to the test of fact, I find that of those whose menstruation was described as *scanty or diminished*, the condition as to pain was as follows:—Painless, 17, or 21 per cent.; painful, 64, or 79 per cent.; with recently acquired or increased pain, 25, or 30·7 per cent. Of those whose menstruation was *profuse or increased*, the statements as to pain give the following result:—Painless, 15, or 13·8 per cent.; painful, 94, or 86·2 per cent.; with

* As it has been shown to do in cancer. See Champneys, 'Trans.,' vol. xxii, p. 19.

recently acquired or increased pain, 41, or 37·6 per cent.

The general conclusion to which I come is that menstrual pain is more frequent in women with backward displacement of uterus than in the general average of women. Of women with retroversion or retroflexion of the uterus who are menstruating, pain appears to be absent in only about one fifth, while of women in general two fifths or more menstruate without pain. Menstrual pain associated with backward displacement of uterus appears to be rather more frequent in those who menstruate profusely than in those who menstruate scantily. The percentages of patients with backward displacements of the uterus who suffer from increased pain and from increased hæmorrhage are very nearly alike (38 per cent. of pain and 40 per cent. of hæmorrhage), and this fact suggests a close alliance as to cause.

Dr. Hayes thought that the value of the paper was impaired by the fact that the amount of hæmorrhage in the cases was not specified. Bleeding varied so much, even in healthy women, in its amount and frequency, and in the same woman under trifling disturbances, keeping of course always within moderate bounds, that comparisons were difficult and misleading. Further, in backward displacements of the uterus the ovaries were often prolapsed and tender. Such a condition of the ovary *per se* not infrequently gave rise to troublesome and even considerable hæmorrhage. This was proved by the fact of hæmorrhages in cases of prolapsed ovaries without any retroflexion of uterus, and the arrest of hæmorrhage by the removal of the prolapsed organ. In the paper no mention was made of the position of the ovaries when the uterus was backwardly displaced. Again, respecting the dysmenorrhœa, he would have liked some specification of the amount of pain in the individual cases.

Dr. Rutherfoord asked how many of the 40 per cent. of women with increased menstrual flow were multiparæ, and what was the average number of children per woman? He could not accept retroflexion alone as a cause of increased menstruation, and thought it probable subinvolution might account for the menorrhagia.

Dr. Heywood Smith asked Dr. Herman whether in his investigations into so large a number of backward displacements of the uterus he had made any observations as to the number of cases of retroflexion of the gravid uterus?

Dr. Addinsell asked whether in those cases in which pain was the prominent symptom there had been increased difficulty in passing the sound—as the retroflexion would tend to increase the stenosis of the internal os—and thus account for the pain in Dr. Herman's cases.

Dr. Herman had no doubt that among his cases of backward displacement were many cases of subinvolution. Subinvolution was present also among the cases with which he had compared the cases of displacement. He did not think subinvolution was especially common in multiparæ. Prolapse of the ovary was present in many of his cases, but he did not known the exact number. He had often observed pregnancy occur in cases of backward displacement, though he could not without reference to his case-books say how often. In a paper read in December, 1891, he had discussed this point. He found the sound generally caused pain in patients of all classes when it passed the internal os. He had not perceived anything to make him think there was stricture at the internal os.

TWO CASES OF DOUBLE OVARIOTOMY DURING PREGNANCY.

By W. A. Meredith,
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(Received January 29th, 1892.)

(*Abstract.*)

Case 1.—A primipara, 25 years of age, from whom two papillomatous ovarian cysts, together weighing 6 lbs., were removed by abdominal section in the third month of pregnancy. The operation was complicated by very extensive adhesions, and a drainage-tube was subsequently used for a space of thirty-six hours. Convalescence was speedy, and uninterrupted by any evidence whatever of uterine disturbance. The patient returned home on the twenty-sixth day, and was safely delivered of a well-developed boy at the full term of gestation.

Case 2.—A multipara, aged 31, operated on in the third month of pregnancy. The tumours in this instance weighed 5 lbs. The left ovary was a multilocular cystoma with a recently twisted pedicle; the right ovary was a dermoid cyst. No drainage was employed. Convalescence was perfectly uneventful; and the patient was subsequently confined at term of a daughter.

In both cases delivery was followed by normal contraction of the uterus, and by subsequent complete involution of the organ.

Previously recorded cases of double ovariotomy during the course of pregnancy were noted as amounting to but four in number. All the mothers recovered; but two only out of the four operations referred to were followed by the birth of a living child—in one instance prematurely at the eighth month, and in the other at the full term of gestation.

THE successful removal of an ovarian cyst during the course of pregnancy is so comparatively common an occurrence at the present day that special record of such an event, even though followed by the birth of a living child, would hardly seem called for; and, personally, I should not deem it necessary.

A like criticism may possibly be considered applicable to a record of the two cases which I bring before the Society this evening; but I think that the fact of the infrequency with which such instances have up till now been reported may well be deemed sufficient to justify the present communication.

CASE 1.—M. Y—, aged 25, married fifteen months, and never previously pregnant—was referred to my charge in the Samaritan Free Hospital in November, 1890, by my colleague, Dr. Amand Routh, under whose care she had occasionally attended in the out-patient department of the hospital for some months before her admission.

History.—She had always enjoyed good health previously to her marriage in September, 1889. Shortly after this event, she discovered a small tender swelling in the left inguinal region, and was laid up with an attack of pelvic inflammation for some eight or nine weeks under the care of Dr. Staines, of Bloomsbury Square. In the following March (1890) she first consulted Dr. Routh, who then noted the existence of a firm bilobed tumour closely connected with the uterus. On June 4th the anterior portion of the tumour was found to be increasing in an upward direction; and a secondary mass was felt deep in the pelvis behind the uterus, which was slightly enlarged, with somewhat impaired mobility. Menstruation continued regular without excessive loss, the flow lasting four days.

The patient was subsequently lost sight of until the following October, when she returned to the hospital looking very ill, with a history of seven weeks' amenorrhœa, accompanied by abdominal pains and rapid loss of

flesh. I first saw her with Dr. Routh on November 10th, and she entered the hospital on November 12th.

The following notes were then made of her condition :—" A delicate-looking, but fairly well nourished little woman, without any pelvic deformity. No evidence of heart, lung, or kidney mischief. Abdomen occupied by a firm, elastic, somewhat irregular tumour, extending highest in the left side, where its upper border reaches nearly to the costal arch. Epigastrium and both flanks resonant. Anterior to the larger tumour, a secondary mass of firmer consistence rises from the pelvis to midway between pubes and umbilicus. This latter growth overlies the uterus, which on bimanual examination is found to be considerably enlarged, lying retroverted with its fundus in the right iliac fossa, and a characteristically softened cervix pointing towards the left side of the pelvis. An ill-defined souffle is audible in the right inguinal region."

No menstrual loss had occurred since August 15th. Morning sickness had been noted for some five or six weeks.

Diagnosis.—Pregnancy with advanced disease of one, or possibly of both, ovaries.

Operation, on November 18th, 1890.—The ordinary median incision, made somewhat higher up than usual, revealed a multilocular ovarian cyst partially covered by adherent omentum, and firmly connected with the parietal peritoneum over the left side of the abdomen. After evacuation of the more prominent cyst cavities, the incision was extended upwards above the umbilicus in order to effect separation of the very extensive parietal, omental, and intestinal adhesions covering the upper surface of the tumour, which was then turned out of the abdominal cavity. A pedicle of moderate length, connected with the left side of the enlarged uterus, was clamped previously to division, and subsequently ligatured with silk.

The right ovary, consisting of the mass already referred to as situated anterior to the main tumour before opera-

tion, had been displaced during the removal of this latter, and was so completely enveloped in adherent omentum that I had some difficulty in discovering it, and still more when I had done so in freeing it from its adhesions. After securing its pedicle and removing the growth, at least a dozen fine ligatures were required to arrest bleeding from the damaged omentum, and several more were applied to bowel adhesions.

No difficulty was now experienced in raising and replacing the pregnant uterus in good position.

A quantity of sanguineous fluid remained in the pelvic cavity; and I therefore inserted a glass drainage-tube, which was removed thirty-six hours later, when both pulse and temperature were at normal—a point not subsequently exceeded during the patient's stay in hospital.

Convalescence was speedy, and uninterrupted by any evidence whatever of uterine disturbance. Fœtal movements were felt by the patient for the first time on December 2nd. She was allowed to leave her bed on December 9th, and returned home on December 14th, the twenty-sixth day after operation.

Both tumours were good examples of papillomatous cysts. Together they weighed six pounds. The larger of the two was extremely multilocular, showing extensive papillary growths of the firm non-vascular variety, not only within its various loculi, but also in scattered groups upon its outer surface, these latter proliferations being apparently independent of any directly subjacent internal growths. The smaller tumour, of the size of a fœtal head, contained one main cavity densely packed with sprouting papilloma. No infection of the general peritoneum was noted.

Subsequently to the patient's return home the pregnancy pursued a perfectly normal course, and terminated in the birth of a well-developed boy on June 11th, 1891. Dr. H. Taylor, of Kennington Park Road, who kindly took charge of the patient at my request, reported to me that delivery was readily effected after an eight hours' labour,

and that the uterus subsequently contracted normally. The lochia ceased at the end of the fortnight, and both mother and child came to see me at the hospital five weeks after the confinement. The uterus then measured three and a half inches by the sound, and was quite moveable.

Case 2.—E. J—, 31 years of age, married twelve years, and mother of six children, of whom the youngest was one year and ten months old, entered the Samaritan Hospital under my care on February 16th, 1891.

Previous history.—Although never strong, she had enjoyed fairly good health until about twelve months before, when she noticed some loss of flesh, accompanied by abdominal swelling. In June, 1890, she was admitted into St. Bartholomew's Hospital, whence she was discharged after some weeks' stay, owing to her refusal to submit to an operation. In the following October she consulted Sir Spencer Wells, who advised her to apply at the Samaritan Hospital; but she did not do so until February, 1891, when she attended as an out-patient, and was referred to my care on February 14th, in consequence of a sharp attack of abdominal pain.

On her admission, two days later, the following notes were taken of her condition:—"Emaciation considerable. Abdomen contains a mobile tender cyst, extending upwards above the umbilicus and downwards into the left side of the pelvis in front of the uterus, which lies retroverted towards the right, beneath the tumour. The cervix offers no very characteristic signs of pregnancy, but the indistinctly traceable body of the uterus is decidedly enlarged and softened. No souffle is audible."

The catamenia were stated to have rarely been regular as to time of onset or duration. They were last seen in the previous November (1890), when the flow lasted for forty-eight hours.

The *diagnosis* made was:—Ovarian cyst with pregnancy, presumably in the third month.

At the operation, on February 18th, a thick-walled multilocular cyst of the left ovary, with a recently-twisted pedicle, was removed without difficulty. On raising the large retroverted uterus, which evidently contained a fœtus, I discovered the right ovary, enlarged to the size of a turkey's egg, lying unadherent at the bottom of Douglas's pouch. It was removed entire, and on section was found to be a dermoid cyst filled with fat and hair. The total weight of the two tumours was five pounds. The abdomen was closed without drainage.

The patient's convalescence was uneventful. The temperature never exceeded 99·6° F. Throughout her stay in hospital no evidence whatever of uterine disturbance was noted, and she returned home on March 16th, the twenty-sixth day after operation, having quickened about a week previously to that date.

The pregnancy followed a perfectly normal course, and Mr. Cursham Corner, of Mile End Road, who took charge of the patient, wrote me that she was safely delivered on September 11th, 1891, of a well-developed daughter eight pounds in weight. The confinement was natural, and in noways different from her previous ones.

Both of these patients came to see me on December 14th, 1891, bringing their infants with them. In each instance I found on pelvic examination that the uterus was well involuted, and normal as to position and mobility. The abdominal incisions were perfectly sound, and well united throughout. Both children were fine healthy babies, and were being nursed by their respective mothers.

Previously recorded cases of removal of both ovaries for advanced cystic disease during the course of pregnancy, so far as I have been able to ascertain, amount to but four in number.

The first one of this series in point of date is contained in our 'Transactions,' vol. xxviii, p. 41. The patient, a primipara, was operated on in 1885 by Mr. J. K. Thornton, who removed two dermoid ovarian cysts

during the fourth month of pregnancy. The operation was followed by recovery, and subsequently by the birth of a living child at the end of the eighth month.

The next case in the series is reported in the twentieth volume of the 'American Journal of Obstetrics' (for 1887, p. 730), by Dr. Mundé, of New York, who operated in the fifth month of pregnancy. The tumours in this instance also were dermoid cysts. Their removal was followed by miscarriage at the end of seventy-two hours, but the patient recovered.

In 1888, Dr. Potter, of Buffalo, U.S.A., published in the twenty-first volume of the 'American Journal of Obstetrics' (p. 1028) a very full and interesting report of a case of removal of two ovarian cysts during the fifth month of pregnancy. A threatened miscarriage a week after operation was averted by full doses of opium, and the patient subsequently gave birth to a living child at term.

The fourth case referred to was briefly noted in the 'Journal of the British Gynæcological Society' for 1890 as one of double dermoid ovarian cysts removed during the third month of pregnancy by Dr. Bantock. No further details of this case have been published, but I understand from Dr. Bantock that the pregnancy terminated prematurely at the seventh month in the birth of a child, who survived but a few hours.

In the discussion following the report of Dr. Potter's case above alluded to (loc. cit.), mention appears of a case of double oöphorectomy performed during the third month of pregnancy by a Dr. Montgomery; but no details are given as to the nature of the disease for which the uterine appendages were removed, although it is stated that the patient recovered, and afterwards bore a living child.

Setting aside this case as not being one of ovarian tumour, and consequently not bearing directly upon the subject of this communication, we have a group of six

cases of double ovariotomy performed during the course of pregnancy without a maternal death, and followed in four out of the six by the subsequent birth of a living child—in one instance prematurely at the end of the eighth month, and in the three remaining instances at the completion of the full term of gestation.

In conclusion, I will very briefly indicate what seem to me the chief noteworthy points in connection with the two cases which I have brought forward this evening from my own practice. They may, I think, be summarised as follows:

1. The persistence of ovulation, and the occurrence of normal pregnancy with coexisting extremely advanced cystic disease of both ovaries.

2. The entire absence after operation of any evidence of uterine disturbance as the result of prolonged and troublesome intra-peritoneal manipulations, entailing in both instances considerable handling of the pregnant uterus, and followed in one instance by the use of a glass drainage-tube in the pelvic cavity for the space of thirty-six hours.

3. The subsequent occurrence in both cases of easy and natural delivery, at term, of a healthy well-developed child, followed by normal contraction of the uterus, normal duration of lochial discharge, natural performance of the function of lactation, and finally by perfectly normal and complete involution of the uterus.

From a strictly clinical standpoint there is not much to add to the details already given.

In both my cases resort to active surgical interference in face of the presumed existence of pregnancy was deliberately adopted as offering the best possible chance of safety both for mother and child—a conclusion fully confirmed by the results.

In each instance the operation was performed with strict antiseptic precautions, but without the use of the carbolised spray, which I have now entirely discarded in

my abdominal work for over three years past, with consequent great improvement in my results.

Finally, to neither of my patients was any opium administered throughout their stay in hospital—a noteworthy fact, as indicating the smoothness of their convalescence.

Mr. Alban Doran observed that it was certainly justifiable to remove an ovarian cyst during pregnancy. The diagnosis of two cysts in a pregnant woman was difficult, but when, on the removal of one ovary, the opposite organ was also found to be cystic, it ought to be removed. Indeed, its removal hardly increased the chances of abortion. If left behind, after irritation by handling, it might set up uterine contractions. The Fallopian tube, in these cases, was specially sensitive. The evidence that ovulation continued when both ovaries were in an advanced stage of cystic disease implied that when thus diseased they influenced the uterus, and no doubt prejudicially. Hence their thorough removal, in cases of pregnancy, was highly advisable.

Dr. Lewers was much interested in the first case, where a glass drainage-tube had been used, and where there were papillary growths on the outer or peritoneal aspect of the cysts without infection of the peritoneum. He had recently had a case of ovariotomy in a patient who was five months pregnant. In this case, as there were no adhesions, there was no reason to insert a drainage-tube, but had it been desirable to do so it would have been a difficult matter to pass the tube in the usual way to the bottom of Douglas's pouch, as this was practically obliterated by the pressure of the pregnant uterus. He had had a case of double ovariotomy recently where there were numerous papillary growths from the outer or peritoneal aspect of the cysts without any infection of the peritoneum, and not due to intra-cystic papillary growths bursting through the cyst-wall. In this case there was good reason to believe these papillary growths on the peritoneal aspect of the cysts had been present for a considerable time, as three years before he operated an operation had been advised against elsewhere on the supposition that the patient had pelvic cancer.

OCTOBER 5TH, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—48 Fellows and 13 visitors.

Books were presented by Dr. Robert Barnes, Dr. Coromilas, the Clinical Society of London, the Guy's Hospital Staff, and the St. Thomas's Hospital Staff.

William McAdam Eccles, M.B., B.S.Lond., and Samuel Walshe Owen, L.R.C.P.Lond., were admitted Fellows of the Society.

The following gentlemen were elected Fellows:—Charles William James Chepmell, M.D.Brux. (Brighton); and John Benjamin Hellier, M.D.Lond. (Leeds).

The following gentlemen were proposed for election:—James Henry Ashworth, M.D.St.And. (Halstead); Robert Davis, M.R.C.S. (Epsom); Herbert M. Nelson Milton, M.R.C.S. (Cairo); and Walter William Hunt Tate, M.B.Lond.

DISTENSION OF VAGINA AND UTERUS WITH MUCO-PURIFORM FLUID, ACCOMPANIED BY DILATATION OF BLADDER AND URETERS FROM PRESSURE, IN A CHILD SEVEN WEEKS OLD.

By W. McAdam Eccles, M.B., B.S., F.R.C.S.

N. D—, born on January 17th, 1892, the second child of a healthy mother, the first child being perfectly normal. A few days after birth a swelling presenting at the vulva was noticed. The child was apparently in perfect health until March 10th, 1892, when the abdomen became much distended, and there was continued vomiting.

March 12th.—Worse. Was first seen on this date. Abdomen everywhere much distended and tympanitic, except just above the pubes. Presenting at the vulva was a rounded, tense, elastic swelling, with impulse on crying, resonance on percussion with finger pressed firmly upon it. What seemed to be the hymen was seen anterior to the swelling. The child had retention of urine, a catheter was passed, and a pint of clear urine was withdrawn. The rectal examination revealed a tense mass lying in front of the anterior wall of rectum. No further treatment was adopted, as there was a mistaken diagnosis of vaginal hernia, and the child gradually sank, and died on March 21st, 1892.

The post-mortem examination revealed a distended urinary bladder, much hypertrophied, and lying behind it, and reaching to above the umbilicus, a dilated vagina containing some ounces of muco-purulent fluid. At the summit was perched a dilated uterus, but neither of the Fallopian tubes was distended. The vagina was occluded at its lower end, and its cavity measured four inches long by three broad, and four inches from before backwards. The cervix uteri would admit the little finger easily ; the uterus was in the position of extreme anteversion. Both

ureters were greatly dilated, being pressed upon by the distended vagina. Both kidneys were hydronephrotic to a marked degree, the left having a little pus in it. There was no communication between the ureters and vagina. The rectum passed down behind the tumour somewhat to the right side, and had evidently been subject to much pressure.

The specimen is preserved in the museum of St. Bartholomew's Hospital, No. 3016A, with two drawings, Nos. 517B and 517C.

A reference to a somewhat similar case will be found in the 'Obstet. Soc. Trans.,' vol. xix, p. 5.

Dr. W. S. A. Griffith referred to a remarkable specimen recorded by Dr. Gervis in 'Obstet. Trans.,' vol. v, in which the fœtal uterus and oviducts were distended with flaky serum (three quarters of a pint), and pointed out that Mr. Eccles' specimen illustrated one of the rarer causes of retention of urine in young women, namely, that due to distension of the vagina by fluid, usually retained menses.

THE PELVIS OF A CAT, WITH BLADDER, UTERUS, AND RECTUM *in situ*.

By H. T. Rutherfoord, M.B., M.R.C.P.

The cat had died during parturition two hours after giving birth to five large kittens. At the post-mortem examination it was found that the uterine cornua were extremely dilated, very thin, and contained a kitten in each horn.

The kitten lowest down occupied part of the right cornu and the body of the uterus, and had its head resting on the brim of the pelvis. The intestines were empty, pushed up against the diaphragm and exceedingly anæmic, as were all the other organs in the abdomen and thorax.

There was no obstruction at the brim or in the pelvis to prevent the birth of the sixth kitten.

Death was due to exhaustion consequent upon the anæmic condition of the cat; and the number of large kittens, which had stretched out the uterus and cornua, had set up a condition of primary uterine inertia, a condition rarely found in animals.

RUPTURED UTERUS AND VAGINA.

By Amand Routh, M.D.

The specimen is from a patient in the Charing Cross Hospital Maternity Department.

The Obstetric House Physician had turned for arm presentation, and had delivered the child without much difficulty. The woman then became greatly collapsed, and as the placenta was not forthcoming he was sent for.

The woman was losing some blood *per vaginam*, but was evidently suffering from internal hæmorrhage and shock. The cord was hanging from the vulva, but the placenta could not be felt by the examining finger. On passing the hand into the vagina, which was full of clot, he found his fingers to impinge directly upon the sacrum and the iliac vessels pulsating feebly. It was evident then that the vagina was torn badly on its posterior aspect. The cord passed through the rent, and it appeared that the tear involved also the lower relaxed segment of the uterus, for though it was impossible to distinguish vagina from this lower zone of the uterus, the tear appeared to start from the contracted portion of the uterus. By external palpation the placenta appeared to be in Douglas's pouch, and it was pressed down externally till it could be felt in the vagina, and was then withdrawn.

The patient was by this time extremely collapsed, very

feeble, pulse 140, very restless, and vomiting, and evidently would not live long, so that even supposing the rupture was such as to have indicated abdominal section it would have been impossible. He determined, therefore, to use an intra-venous injection of salt and water. Coal was borrowed to boil some water (2 a.m. in September), which unfortunately became sooty, there being no lid to the saucepan, and a lump of salt was at last found. He injected into the median cephalic vein about two pints of this warmed solution with Richardson's admirable apparatus, which was, he thought, the best for the purpose. In ten minutes the patient felt quite comfortable, pulse 96, and after a hypodermic injection of morphine and belladonna had a quiet night. Next morning she was removed to Middlesex Hospital, Charing Cross Hospital being closed for repairs, and Dr. Boxall did all that could be done to save her life, but she developed septic pleurisy and a parotid bubo, and died on the eighth day.

THE VALUE OF ABDOMINAL SECTION IN CERTAIN CASES OF PELVIC PERITONITIS, BASED ON A PERSONAL EXPERIENCE OF FIFTY CASES.

By Charles J. Cullingworth, M.D., F.R.C.P.

(Received Sept. 19th, 1891, and Feb. 20th, 1892.)

(*Abstract.*)

The question considered in this paper is whether surgical interference is or is not frequently called for in cases of pelvic peritonitis. The author answers this question in the affirmative, and supports his opinion by a detailed record of fifty cases in which he has himself operated. The paper is accompanied with a table, showing for each case the symptoms, the physical signs, the diagnosis, the actual condition disclosed at the operation, the nature of the operation performed, and the results, immediate and (where possible) remote. The cases are arranged in the order of their occurrence, their classification being reserved for the concluding part of the paper. This method seems to be the best suited for showing the gradual development of the author's present views and practice, and at the same time serves to emphasise the fact that a correct classification can only be made after the diagnosis has been tested by actual inspection of the diseased parts.

The cases include the whole of the author's experience of the operation up to the end of February, 1891, and are classified as follows:

Suppurating salpingitis	20
Non-suppurating salpingitis, including six cases complicated with suppurating ovarian cyst	12
Tubercular disease of Fallopian tubes	2

Pelvic abscess, seat undetermined	3
Pedunculated retro-peritoneal cyst, with abscesses in walls	1
Tubercular abscess in abdominal wall, with masses in pelvis (tubercular glands) and miliary tubercle of peritoneum	1
Hæmatocele	2
Hæmatosalpinx with hæmatocele	3
Hæmatoma of broad ligament	1
Broad ligament cysts: (*a*) With ovaritis 2; (*b*) With hydrosalpinx 1	3
Encysted peritonitic effusion	1
Retroflexed uterus with fibroids	1
	50

Pelvic peritonitis was common to all the cases except the last-named (Case 32), in which an erroneous diagnosis was made.

The cases of suppurating salpingitis are subdivided as follows:

(*a*) With occlusion (pyosalpinx) (Cases 7, 15, 30, 40, 43)	5
(*b*) With distal end open (Cases 16 and 36)	2
(*c*) With suppurative disease of the ovary (Case 37)	1
(*d*) With a direct communication between the tube and a suppurating cyst of the adjacent ovary (suppurating tubo-ovarian cyst) (Cases 17, 18, 20, 25, 33, 50)	6
(*e*) With non-suppurating cystic ovary (Case 27)	1
(*f*) With suppurating hæmatocele (Case 14)	1
(*g*) With hydrosalpinx (Cases 9 and 45)	2
(*h*) With intra-peritoneal abscess (Cases 28 and 49)	2
	20

The cases of non-suppurating salpingitis are subdivided as follows:

(*a*) Uncomplicated cases (Cases 19 and 24)	2
(*b*) With suppurating ovarian cyst (Cases 4, 12, 26, 39, 41, 48)	6
(*c*) With non-suppurating ovarian cyst (Cases 35 and 46)	2
(*d*) With hæmatosalpinx and hæmorrhagic ovarian cyst (Case 2)	1
(*e*) With double hæmatocele (Case 11)	1
	12

Pelvic suppuration was present in thirty cases, or 60 per cent. It occurred in the Fallopian tube alone in thirteen cases, in the ovary alone in six cases, in both tube and ovary in seven cases

(in six of which tube and ovary were in direct communication), while in the remaining four cases the seat of suppuration was either not precisely determined or did not involve either the tube or the ovary.

There was strong presumptive evidence of gonorrhœa in a large proportion of the cases, and in at least five cases the proof seemed complete.

Nine of the cases died, a mortality of 18 per cent. Seven of the deaths were due to peritonitis, probably septic, one to acute nephritis, and one to collapse on the eleventh day.

Of the fatal cases one was tubercular disease of the tubes, two were purulent salpingitis, one was double salpingitis with old hæmorrhage, two were suppurating tubo-ovarian cysts, one was retro-peritoneal suppurating cyst, two were old peritonitis with serous cysts of broad ligament.

As experience increased, the mortality became sensibly diminished.

Hæmorrhage, to a greater or less extent, existed in twelve of the thirty-two cases of salpingitis. In five cases there was amenorrhœa, in three dysmenorrhœa, whilst in twelve the menstrual function was undisturbed.

In sixteen cases the removal of the appendages was complete, in twenty-three partial.* Of the former, fifteen recovered; of the latter, seventeen.

The peritoneum was flushed in twenty-two cases, of which eighteen recovered.

Drainage was employed in forty-seven out of the fifty cases.

In two cases a fæcal fistula formed, which in each instance healed spontaneously.

In five cases the patients complained some time after the operation of more or less persistent pain.

A sinus existed in two of the cases when the patients were last seen.

In four cases a hernia has occurred in the line of incision.

Attention is called to the unreliability of the temperature as a sign of the existence of pelvic suppuration, the temperature before operation having been absolutely normal in twelve of the thirty cases in which suppuration was present.

* By "complete" is here meant bilateral, and by "partial" unilateral.

In the course of the remarks appended to each case the following incidental propositions are laid down, either directly or by inference:

1. Recurrent attacks of pelvic peritonitis in the female ought always to lead to a strong suspicion of the existence of chronic disease of the uterine appendages, and to careful bimanual examination.

2. Purulent collections in the pelvis are particularly apt to set up recurrent peritonitis, and are more common than is usually supposed.

3. Where distinct swellings are found in the posterior quarters of the pelvis, in connection with recurrent attacks of pelvic peritonitis, surgical relief is usually indicated, and, generally speaking, the sooner such relief is afforded the better.

4. Purulent inflammation of the mucous membrane of the Fallopian tube differs from purulent inflammation of other mucous membranes in the absence, owing to the anatomical situation of the Fallopian tubes, of a natural outlet for the pus. A very slight amount of swelling of the mucous membrane suffices to block the tube at its uterine end, and if pus be present in the tube, it must then either remain pent up in the tube, or be poured out through the fimbriated end into the peritoneum, in either case becoming a source of danger.

5. Salpingitis being a painless affection, the wall of a pyosalpinx may be on the point of perforation before an acute attack of peritonitis gives warning of the presence of serious disease.

6. It is safer to attack cases of pelvic suppuration from above than from below.

7. Suppurating tubo-ovarian cysts are usually the result of ulceration on the tubal side of the adhesion between tube and ovary, but in exceptional cases result from ulceration on the ovarian side.

8. The immediate results are more satisfactory after complete (bilateral) than after partial (unilateral) operations.

9. One of the chief risks in the operation for the separation and removal of inflamed tubes is the liability to mistake thickened and adherent intestine for diseased tube. The way to avoid error is to trace the tube from its uterine end outwards.

10. The exceptional instances in which pain persists after operation for gross lesions of the uterine appendages are generally to be explained either by omental or intestinal adhesions, or by the co-existence with the actual disease of a neurotic condition, of which the pelvic pain is a mere local expression.

11. Tubal disease in the virgin is generally, if not always, tubercular.

12. Hydrosalpinx, in the great majority of cases, is merely a form of retention-cyst, due to occlusion of the distal end of the tube from without.

13. Simple collections of serum, both large and small, are apt to form beneath the peritoneum covering the tube and broad ligament in chronic cases of pelvic inflammation, especially in those of very long standing. Probably the best treatment of these cysts, after exposing them and making certain of the diagnosis by abdominal section, is simple puncture and evacuation, the risk of removal being, in the author's experience, out of proportion to their importance.

14. Hæmatosalpinx, though no doubt due, in the majority of cases, to tubal gestation with apoplexy of the ovum, is sometimes an incident in the course of a chronic salpingitis. In these exceptional cases the walls of the distended tube, instead of being attenuated by the distension, as Bland Sutton has shown them to be in tubal gestation, are thickened by inflammatory deposits.

Part I.—Cases 1 to 25.

This paper is offered as a contribution towards the settlement of a question that has been for several years hotly debated, both in this country and in America, namely, whether surgical interference is or is not frequently called for in cases of pelvic inflammation.

The discussion has, in this country, recently assumed a phase that makes it incumbent on those of us who have any evidence to bring forward to do so with as little delay as possible. I propose, in this communication, to approach the subject solely from the point of view of my

own experience, an experience that, I venture to think, is now sufficiently extensive to justify me in laying my results before the Society.

It has been a matter of much difficulty to decide in what order the cases should be arranged. All things considered, it has appeared to me best to present them in the order of their occurrence. By this plan the Society will be enabled to follow the steps by which I have been gradually led to the adoption of my present views, and to judge how far those views are warranted by the teachings of my own experience. Moreover any attempt at classification must necessarily be based upon knowledge obtained during the operation, and would therefore fail to convey a correct impression of the difficulty of the problem that confronts us at the bedside and in the consulting-room. If these cases could all be accurately diagnosed and classified before operation, our task would be much easier.

But although great advances have recently been made in the diagnosis of intra-pelvic disease, the most experienced amongst us will acknowledge that it is not yet possible to make out the precise condition of the parts in every case of pelvic inflammation. We cannot even always distinguish with certainty between purulent and non-purulent cases. If we could, the scope of the discussion would be much narrower. Indeed, I am inclined to think that we should then all agree. In the meantime we must take things as they are, and, recognising our deficiences both in knowledge and in power of observation, make allowance, in any rules we may lay down, for occasional errors of diagnosis.

I am sorry to have to burden my paper with the details of so many cases. But without details the communication, regarded as a piece of evidence, would be worthless. In the accompanying table are presented the main points in each case, viz. the circumstances that induced me to operate, the nature of the operation, the actual condition found, and the result.

Several of the earlier cases have already appeared in print. The inclusion of these in the tables requires no apology, but the fact that some of them are again related with full details in the paper itself seems to call for a few words of explanation. I should have been glad, both for the sake of shortening my paper and avoiding repetition, to omit them; but the object of this communication being to present a complete and faithful history of my personal experience, it seemed to me better to tell the story of some of my cases over again, than, by omitting them, to mar the completeness and so lessen the value of the record.

With the exception, therefore, of five cases (of which the particulars have been published quite recently, and the references to which are given in the table), this paper includes, in more or less detail (sufficient, I hope, for purposes of criticism and discussion), an account of every case in which I performed abdominal section for the relief of pelvic inflammation up to the end of February, 1891.

I had been operating for nearly twelve years, in cases of ovarian and other abdominal tumours, before I ventured to open the abdomen in a case of intra-pelvic disease where there was no abdominal tumour. There had been for some time a growing conviction in my mind that such operations ought to be undertaken; but, being somewhat slow to take up new methods of treatment, it was several years before conviction ripened into action. At length a typical case presented itself.

Case 1.* *Symptoms of pelvic peritonitis for six years; swelling on both sides of the uterus, more marked on right; abdominal section; chronic ovaritis on right with polycystic tumour of each broad ligament; removal of tumours and of right tube and ovary; recovery; pain entirely relieved.* —Annie McC—, aged 25, applied at the out-patient

* An account of this and the following case was published in a paper entitled "Abdominal Section for the Removal of Small Intra-pelvic Tumours of the Ovaries and Adjacent Parts, with Notes of Two Cases," 'Brit. Med. Journ.,' January 30th, 1886.

department of St. Mary's Hospital, Manchester, on account of constant pain and sensation of weight in the lower part of the abdomen, rendering her quite unable to continue her calling as a dressmaker. She was married at the age of seventeen, had never been pregnant, and had now been a widow for three years. The pain commenced six years ago, and had continued ever since with one or two short intervals; it was most severe on the left side. She had consulted several eminent gynæcologists in London, and had at one time been a patient at the Chelsea Hospital, where she obtained considerable temporary relief. But the symptoms returned when she resumed her ordinary life, and increased in severity from year to year until, twelve months ago, she found she was unable to maintain the sitting posture sufficiently long to continue her occupation. During the last six months she had earned what she could as an artist's model. She had an anæmic and careworn appearance, and her general health was evidently becoming impaired.

On bimanual examination of the pelvis, a firm, rounded, tender swelling was felt to the right of and slightly behind the uterus; the uterus itself was normal in size and position. The patient attended the outdoor department for about seven weeks, and, as she did not in any way improve, I suggested an exploratory incision, with a view to removing the disease, if it were found practicable. As her life was a burden to her, and she was unfit for any kind of work, she readily consented to run the risk of the operation; and accordingly I admitted her as an in-patient on May 11th, 1885, and explored the abdomen with antiseptic precautions on the 13th.

I expected to find a chronically inflamed and enlarged ovary on the right side, and an inflamed and adherent ovary without marked enlargement on the left. What I did find was as follows: on the right side a chronically inflamed and adherent ovary of the size of a walnut, and in addition to this a firm tumour of the broad ligament, of the size of a closed fist, consisting of a compact mass

of exceedingly small cysts; on the left side another broad ligament tumour, of similar character to that on the right side, but smaller. The left ovary was apparently healthy. I enucleated both the broad ligament tumours, and removed the right ovary with part of the Fallopian tube, leaving the left ovary and tube undisturbed. The operation was rendered somewhat difficult by numerous very firm adhesions. A glass drainage-tube was inserted and left in for forty-eight hours. The temperature rose to 102° F. in the evening of the day of operation, but soon fell to 100° F.; and although it rose on the morning of the fifth day, and again on the morning of the sixth day, to 101° F., it did not again occasion the least anxiety, and the patient made an excellent recovery.

I saw her seven months later. Her only complaint then was that she menstruated too frequently. She had lost her anæmic appearance, and had become stout and well, and being entirely relieved of her pain, she was now able to follow in comfort her occupation as a dressmaker.

It will be observed that, in this case, two small tumours were found, one in each broad ligament. But as these were not diagnosed, and the operation was performed under the impression that the whole of the mischief was of inflammatory origin, the case is evidently entitled to a place in this series. No mention is made of the condition of the tubes. I was not at that time alive to the importance of tubal inflammation as a precursor of pelvic peritonitis. As often happens, the pain was on the opposite side to that on which the disease was most marked. This is a clinical fact that I am unable to explain. I am content to know that the pain disappeared when the disease was removed.

Case 2. *Severe dysmenorrhœa for seven years; continuous pain with hæmorrhage for two months; tender, firm, oblong swelling on right side displacing uterus to left; abdominal section; blood-cyst of right ovary, smaller cyst of left; chronic inflammation of right tube, with hæmato-*

salpinx, left tube healthy; both ovaries and right tube removed; recovery.—Mary M—, aged 26, married to a winder in a cotton mill, was admitted into St. Mary's Hospital, Manchester, on September 25th, 1885, complaining of continuous pain in the lower part of the abdomen, especially on the right side and down the right thigh. The pain had existed for seven years, commencing soon after the birth of her only child. At first it only came on immediately before each menstrual period, but even then it was so severe while it lasted that she was rendered unfit for work. During the last two months the pain had been severe and continuous, and there had been persistent hæmorrhage from the uterus.

The patient on admission was thin and anæmic, with a haggard and pinched countenance, betokening much suffering. On bimanual examination of the pelvis the right side was found to be occupied by an oblong, firm swelling, very tender to the touch, pushing over the uterus to the left of the middle line. The diagnosis was uncertain, but I thought it most probable that there was distension of the right Fallopian tube. The hot douche and absolute rest were found, at the end of a fortnight, not to have resulted in the least relief; and accordingly, the risk having been explained to the patient, an exploratory incision was made in the middle line of the abdomen on October 7th. The right ovary was found to be enlarged to the size of a hen's egg, and to be cystic; the contents of the cyst, which escaped during removal, consisted of dark fluid blood altered by long retention. Closely connected with the diseased ovary was a thick fusiform swelling, consisting of the Fallopian tube distended with blood, partly fluid and partly clotted, the walls of the tube being much thickened by chronic inflammation, and firmly adherent externally to a coil of small intestine. After carefully separating the adhesions the tube and ovary were both removed, the ligature being placed close to the uterus. The left ovary was also found to be enlarged from incipient cystic disease, and was

accordingly removed. The tube on the left side was healthy. A glass drainage-tube was inserted at the lower angle of the wound, and was allowed to remain until the fourth day. The patient made an excellent recovery, the temperature only once rising to 100° F. She had some pain about a fortnight after the operation, but it soon passed off, and in the month of December she had become entirely free from pelvic discomfort, and was able to go about as usual.

This was a case of chronic unilateral salpingitis, in the course of which hæmorrhage had occurred, distending the tube with blood. Such cases are distinguished from hæmatosalpinx due to apoplexy of the ovum in a tubal gestation, not only by the discovery of chorionic villi in the latter, but also by the condition of the walls of the tube, which in cases of hæmorrhage due to tubal gestation, are, as Bland Sutton has pointed out,* abnormally thin instead of being abnormally thick. In the one there is simple distension with, at the most, some turgescence; in the other there is inflammation as well as distension. The co-existence, in cases of inflammatory hæmatosalpinx, of blood-cysts in the adjacent ovary is by no means infrequent. Several additional examples will be given in the course of this paper.

Case 3. *Recurrent pelvic peritonitis for ten years; constant pain in left iliac region and back, with discharge of blood from rectum and pain on defæcation, for five years; thickening in situation of both broad ligaments; prolapsed and adherent left ovary; abdominal section; chronic pelvic peritonitis, ovaries normal, adherent; left broad ligament thickened, right tube distended with serum, three cysts in right broad ligament; cysts and right tube*

* "It is a fact important to be remembered that when a Fallopian tube becomes distended by fluid accumulations, or even by an impregnated ovum developing within it, the walls of the tube gradually thin. In this respect the tubes are in striking contrast with the uterus."—"Lecture on the Value of Comparative Pathology to Philosophical Surgery," 'Brit. Med. Journ.,' February 21st, 1891, p. 398.

removed; death; autopsy.—J. R—, aged 35, married, housekeeper, was admitted into St. Mary's Hospital, Manchester, January 12th, 1886, on account of severe pain in left iliac region. She had been married eighteen years, and had borne two children, the last one fifteen years ago. Her health had been exceedingly good up to ten years ago, when she had an attack of peritonitis, and was confined to bed altogether for about five months. She had a considerable quantity of vaginal discharge and also a good deal of bleeding and purulent discharge, from the bowel. A year or two later she began to suffer severe pain in the left iliac region. At first this only came on immediately before each menstrual period; after a short time it became constant, though it was always worse at the periods. Five years ago she was again laid up for a considerable time. On leaving the hospital she became an out-patient, and she has attended more or less regularly ever since. The pain has gradually become more severe and constant, and is felt in the back as well as the iliac region. The patient has been entirely unable to undertake ordinary housework for several years, and her suffering is often exceedingly severe. Lately she has lost flesh. Menstruation is, for the most part, regular; during the last month there has been some irregular hæmorrhage.

On admission there is nothing abnormal to be detected on examination of the abdomen.

Per vaginam, os uteri patulous, old laceration of cervix on left side. Uterus retroverted and slightly displaced to right; swelling in Douglas's pouch consists of corpus uteri. The left broad ligament gives the sensation of being thickened, and a small body, tender to the touch, is felt behind it, close to the uterus. There is very slight thickening in the region of the right broad ligament; a soft cord can be felt, like the Fallopian tube. The diagnosis was chronic ovaritis of left side, with extensive adhesions. The abdomen was opened on the 13th of January. The contents of the pelvis were much

matted. The uterus was retroverted and fixed by adhesions. There was no cyst or tumour detected on the left side. Both ovaries appeared to be normal. In the right broad ligament three cysts were found of varying size, the largest being about equal in size to a goose's egg. The smallest cyst appeared to be in direct communication with the interior of the Fallopian tube, which was distended with serum. The parts removed consisted of the tube and broad ligament cysts from the right side. A drainage-tube was inserted, and the wound closed. There was a good deal of pain and a little sickness during the first forty-eight hours, but it was not until the morning of the fourth day that the patient's condition gave rise to serious anxiety. The temperature, hitherto under 100°, gradually rose, the pulse became rapid, and there was constant retching. She died a little after midday.

On post-mortem examination the following day the omentum was found thickened and hyperæmic. A band passed down from it into the left side of the pelvis, where it was firmly adherent. There were two or three fluid ounces of blood-stained serum in the peritoneal cavity, but there was no evidence of suppuration there or elsewhere. The pouch of Douglas was obliterated by the retroverted and adherent uterus. On the right side there was a large adherent blood-clot just above the ligature; no ovary could be found on that side. On the left side there was considerable thickening of the broad ligament; the left ovary was slightly enlarged. The intestines were considerably distended, their serous coat showing signs of commencing inflammation. There was an abrasion of the outer coat of the ileum, about a quarter of an inch in diameter, situated about five or six inches from the cæcum. Old adhesions existed between the coils of intestine in the upper part of the abdomen and between intestine and omentum. The intestinal canal was opened from pylorus to rectum, no stricture or ulcer being discovered. The liver, kidneys, spleen, pancreas, and stomach showed no morbid change.

In this case I was surprised not to find evidence of ovarian inflammation. As a matter of fact, no lesion was found sufficient to account for the extensive peritonitis. It is quite possible that with greater experience I might have been able to recognise and remove something of greater pathological importance than a few subperitoneal cysts and a tube distended with serum. For I know of no operation in which experience is more helpful than in this. For several years this patient had been my faithful attendant at my consulting rooms, and the disastrous result of the operation, which I was most unwilling to undertake, distressed me exceedingly.

The three following cases, which also occurred before I left Manchester, were fortunately more successful.

CASE 4. *Recurrent pelvic peritonitis commencing shortly after marriage three years ago; constant pain for two years; inability to work; small, fixed swelling on right side of uterus; abdominal section; chronic salpingitis of both sides; small suppurating ovarian cyst on right; left ovary adherent, otherwise normal; both tubes and both ovaries removed; recovery; complete disappearance of pain.*—Mary B—, aged 25, married, was admitted into St. Mary's Hospital, Manchester, April 20th, 1886, complaining of severe pain on the right side of the pelvis and less severe pain on the left, also of a bearing-down sensation, worse after walking and at the menstrual periods. The symptoms commenced a few weeks after her marriage three years ago. Two years ago she was in the hospital under my care for some weeks, and left greatly improved. On resuming her household duties, however, she broke down again at once, and for two years the pain has now been constant, entirely unfitting her for work. She has never been pregnant.

The uterus is normal in size, mobility, and position. In the right posterior quarter of the pelvis is a mass about the size of a small orange, separated from the uterus by a distinct sulcus.

The general health is fairly good; the temperature normal. There has recently been some loss of flesh.

The diagnosis was dilated right tube. Abdominal section was performed April 30th.

The pelvic viscera were densely matted; a coil of intestine had become firmly adherent to the bladder. Both Fallopian tubes were thickened, each being half an inch in diameter. The right ovary was enlarged, its length being three inches. On section it was seen to contain two main cysts, one an inch in diameter, the other two inches. The larger cyst was full of pus. The left ovary was normal, but universally adherent. Both tubes and both ovaries were removed. A drainage-tube was inserted and retained for forty-eight hours. Menstruation commenced on the third day, and lasted until the seventh. Pain on movement of the right leg was complained of on the third day. Next day it was worse, but from that time it gradually diminished and eventually disappeared. On the sixth and seventh days there were hallucinations of sight on closing the eyes; these did not continue. The sutures were removed and an enema of olive oil was given on the sixth day; the bowels acted freely on the seventh. The temperature during convalescence never exceeded 100° F., and the patient was in due course discharged well. Six months afterwards she presented herself looking stout and well. The pain had entirely disappeared.

On October 26th, 1892, in reply to some inquiries, I received from the patient's medical attendant a letter, from which the following is an extract:—"The pain she had in the right iliac region has not troubled her since the operation. The pain in the left hip continued very constant until about two years ago, but since then she feels it only after a day's washing. She had rather a severe flooding about six months after the operation, and menstruated three or four times after that at irregular intervals. She has not menstruated now for two years. She has a continuous yellow discharge. She says she never was very strong,

and at present considers herself as well as ever she was. The operation has certainly converted her from a chronic invalid into a woman capable of performing her household duties."

CASE 5. *Pain and tympanitic swelling in the lower part of the abdomen, commencing with an acute attack ten weeks before admission; after two months' rest and treatment pain diminished, but swelling increased; abdominal section; large abscess in peritoneal cavity, extending deeply into the right side of the pelvis, and shut off by adhesions; cavity emptied, washed out, and drained; purulent discharge for several months; rapid improvement of general health, and ultimately complete recovery.*—M. E. B—, single, aged 21, a weaver, was admitted into St. Mary's Hospital, Manchester, on April 12th, 1887, with swelling of the lower part of the abdomen, and complaining of pain, especially at the bottom of the back. The pain and swelling commenced ten weeks previously, at the end of a menstrual period. She had not menstruated since.

The lower half of the abdomen was uniformly distended; there was no fluctuation, and the percussion note was tympanitic throughout. No distinct tumour could be felt. The uterus was of normal size, its mobility impaired. Nothing could be made out as to the condition of the uterine appendages. After two months' rest in bed the size of the abdomen had rather increased than diminished. A distinct ridge could be felt running transversely across the abdomen a little below the umbilicus.

Abdominal section was performed June 8th, 1887. On opening the peritoneal cavity the omentum was found adherent to the anterior abdominal wall, and tacked down to the pelvis along its entire breadth. With much difficulty the right border of the omentum was separated and raised; it was then found that all the pelvic viscera were matted together by adhesions. In separating these the finger passed through a very friable membrane into a cavity, from which there escaped a quantity of thin

sanious pus, mixed with flakes of lymph. The opening was enlarged, and the fluid soaked up, as it escaped, by means of sponges. The finger was then introduced within the abscess cavity, which dipped in the most irregular manner here and there amongst the viscera, and was evidently a portion of the peritoneal cavity shut off by adhesions. It extended a considerable distance upwards into the abdomen and downwards into the right side of the pelvis. The bladder formed part of its anterior wall. The cavity was washed out with warm water; the edges of the abscess sac were secured on each side, as well as their friable character permitted, to the edges of the lower part of the abdominal incision, and the upper part of this incision was closed. A drainage-tube was left in the sac. The uterus and appendages were not made out. There was some rise of temperature during the first week, the highest record being 101·8° F. at 2 a.m. on the 11th June (fourth day). On the third day the patient passed flatus through the rectal tube and was able to dispense with the catheter. Menstruation commenced the same day and continued until the sixth day. On the fourth day a discharge of offensive pus took place. The discharge soon lost its offensive character, but its quantity was for some time considerable. In the meantime the patient's health rapidly improved. In a fortnight she was sitting up, and on July 23rd she was allowed to go home for a few days. She was readmitted on August 17th, and as she became very useful as a ward help she was kept under observation for three months. There was still some purulent discharge from a small sinus when she left the hospital; this continued for some time, and finally ceased. I saw her in August, 1892, five years after the operation. She was then in excellent health, and was menstruating regularly. She had been married two years.

Case 6. *Metrorrhagia and pain in the abdomen with bearing down, commencing two months after marriage; obscure retro-uterine swelling reaching to umbilicus, with*

increasing pain and tenderness and occasional rise of temperature; rest and hospital treatment for nine months without relief; abdominal section; large intra-peritoneal abscess; drainage; prolonged suppuration; recovery.—Eva J—, aged 23, married, was admitted into St. Mary's Hospital, Manchester, on January 19th, 1887, complaining of irregular hæmorrhage and a sensation of bearing down. The symptoms dated from a few weeks after her marriage, which took place six months ago. She attributed them to having bathed in the open sea during menstruation. Three months ago some swelling of the lower part of the abdomen was observed, and she was thought to be pregnant. She had been kept in bed for some weeks previous to her admission.

On admission the abdominal walls were tense, but no definite tumour could be made out. There was dulness on percussion from pubes upwards to within an inch of the umbilicus. The uterus was normal in length, position, and mobility. She had an attack of pain in the hypogastrium on the 23rd of January, and was treated with poultices and the hot douche. She left the hospital relieved on March 5th, and was readmitted July 12th. Her general health had greatly improved, and the bearing-down sensation had almost disappeared. The menstrual flow had taken place regularly. She was examined under an anæsthetic on July 18th. Behind the uterus, which was normal, there was an obscure swelling rising into the abdomen nearly as high as the umbilicus. She went home again on the 23rd July, and was once more admitted on September 22nd, having become worse ever since leaving the hospital. She had suffered much more abdominal pain, the size of the abdomen had increased, and menstruation had been irregular, the intervals varying from three to five weeks. The temperature was raised, the appetite poor, and the patient was incapable of the least exertion.

The abdomen was swollen and tender, the muscles of the abdominal wall rigid. On bimanual examination a

large fluctuating swelling could be felt behind the uterus, filling up the retro-uterine pouch and rising into the abdomen nearly to the umbilicus. The right lateral fornix was depressed by a firm swelling. No decided dulness on percussion, but the hypogastrium and part of each iliac region were duller than the rest of the abdomen; the flanks were resonant.

Abdominal section, October 12th.—Immediately beneath the abdominal wall, and adherent to it, was a swelling with a covering of what appeared to be peritoneum. During the separation of the adhesions the wall of the swelling was slightly torn, and some pus oozed out. The opening was enlarged, and about 20 fl. oz. of slightly fetid yellowish-green pus escaped, along with some lymph-flakes. The fingers were now passed into the abscess-cavity, which was found to be very extensive. It passed upwards above the level of the umbilicus, and dipped down into the pelvis. On the right side a prolongation extended to the pelvic floor. The uterus and appendages were not made out. The inner surface of the abscess wall was rough in places, but for the most part smooth and uniform. The edges of the opening were secured to the edges of the middle portion of the abdominal incision, and the incision, above and below, was brought together by silkworm gut sutures. A glass drainage-tube was inserted into the cavity and retained there for seventy-two hours, an india-rubber tube being then substituted.

Convalescence was very slow. The discharge was profuse, and as it became offensive the cavity was washed out daily with a solution of potassium permanganate. By the 5th of November the general health had begun to improve, and the amount of discharge from the wound to diminish. When she went home on the 10th of March, 1888, there was still a copious discharge from the sinus. which continued for some time. When I last heard of her, in July, 1892, four years and three quarters after the operation, she was perfectly well.

It is, to my mind, certain that in each of these three cases

(4, 5, and 6) it would have been better to operate earlier. In none of them did the patient derive the least benefit from the delay. On the contrary, I believe that, had the abdomen been opened when the patients first came under observation, there would have been much less suppuration subsequently, and convalescence would have been far less prolonged. It is the experience derived from such cases as these, and from some others that will be related presently, that has convinced me of the general inexpediency of delay. If surgical relief is to be given, the more prompt that relief the better. In Case 4 two years were wasted, in Case 5 two months, and in Case 6 nine months, not to speak of the additional waste of time involved in the prolonged convalescence.

I now pass on to the cases that have occurred to me since I removed to London. The first of these, Case 7, is one that had been in the ward for some weeks under the care of my predecessor.

Case 7. *Pain in left iliac region sixteen months; swelling twelve months; amenorrhœa six months; obscurely fluctuating tumour pushing uterus to right; severe illness with wasting and pyrexia; abdominal section; caseating abscess emptied and drained, edges secured to abdominal incision; rapid improvement in health, but sinus persistent, discharging muco-pus; sinus dissected out twenty-one months after operation; found to consist of left Fallopian tube; recovery; small sinus remaining.*—E. F—, aged 25, single, a servant, was admitted into Adelaide Ward, St. Thomas's Hospital, under the care of Dr. Gervis, on February 13th, 1888, complaining of a swelling in the left iliac region, accompanied with constant pain and fever. The pain commenced in November, 1886, and the swelling was noticed in February, 1887, being then equal in size to a hen's egg. Menstruation, after gradually becoming scanty, ceased in July, 1887.

On admission she was very ill. Her temperature,

usually ranging between 99° F. and 101° F., occasionally reached 102° F. and 103° F. She was losing flesh, and was in constant pain. There was a tense, hard, obscurely fluctuating tumour, causing a slight prominence in the left lower fourth of the abdomen. There was dulness on percussion over it. It was closely connected with the uterus; it reached in height from the pubic ramus to within half an inch of the umbilicus, and in width from the left lateral wall of the pelvis to an inch and a half beyond the middle line of the abdomen on the right.

When I came on duty at the end of March, the account given to me was that the patient had not improved during the six weeks she had been in the hospital; the swelling and pain had not diminished, and the loss of flesh and pyrexia had been continuous. I accordingly determined to make an exploratory incision.

Abdominal section was performed on the 5th of April, 1888. On opening the peritoneal sac some ascitic fluid and transparent jelly-like material escaped. The tumour was attached to the uterus (which was pushed over to the right), and was covered with peritoneum. There were no adhesions in front or behind. A trocar was inserted and 3 fl. oz. of pus withdrawn. The opening was then enlarged to the length of an inch and a half, and the finger inserted. The wall of the abscess cavity was ¼ in. thick, and lined, on its roughened inner surface, with caseous material, of which as much as possible was pressed and scooped out. After washing out the cavity with hot boracic solution, and the peritoneum with simple hot water, the wall of the abscess was stitched to the edges of the abdominal incision, the rest of which was closed by sutures of silkworm gut. An india-rubber drainage-tube was inserted into the cavity.

Next day the temperature rose to 102°, and the pulse to 150. On the third day the temperature ranged from 98·6° to 101·2°; on the fourth, from 99° to 100·4°; on

the fifth, from 98·6° to 101·6°; and on the sixth, from 98·4° to 99°. After that it was uniformly normal.

There was a copious discharge of pus, and three weeks after the operation a quantity of cheesy material was cast off with the discharge. After the first five days the patient's general condition quickly and permanently improved. She gained flesh, and was able to sit up in bed at the end of a fortnight. In a month the tumour had contracted, its upper limit being 2 in. below the level of the umbilicus.

She left the hospital, on the 12th of July, stout and well, but still wearing the drainage-tube. The sinus was 2½ in. long, and about 3 fl. oz. of muco-pus escaped during each twenty-four hours. She had menstruated once.

On September 18th, 1888, she presented herself at the hospital. Her condition had still further improved. She still wore the tube; the discharge was now slight. She had menstruated twice since leaving the hospital.

At the beginning of 1890 the patient was still wearing a drainage-tube, all attempts to discard it, even with curetting of the sinus, having failed. This fact, together with the continued presence of mucus in the discharge, convinced me that the abscess was not in the connective tissue of the broad ligament, as was thought at the time of operation, but in a cavity lined by mucous membrane. By stitching the edges of the abscess wall to the edges of the abdominal incision, a fistulous communication had evidently been established between this cavity lined by mucous membrane and the exterior. It seemed to me highly probable that the case was one of pyosalpinx, and that I had unintentionally performed the operation of salpingostomy.

I therefore readmitted the patient, and on the 14th January, 1890 (a year and nine months after the operation), the sinus was carefully dissected out. It was found to consist of the left Fallopian tube, thickened, but no longer dilated, running directly forwards from the left

cornu of the uterus, which had become twisted half round on its vertical axis, so that its anterior surface looked to the right, and its posterior to the left. The tube was removed close to the uterus, the exposed mucous membrane in the stump being cauterised by a heated iron skewer. The normal right tube and ovary were felt behind the uterus.

The last time I saw this patient, viz. on July 25th, 1891, she was strong and well, although there was still a very slight muco-purulent discharge from the old sinus.

In a letter I received from her December 14th, 1892, she told me she was about to be married. Menstruation was regular, generally painful and somewhat profuse. There was still a slight discharge from the sinus.

The lesson to be learned from this most interesting case is not to be satisfied with half-measures. Regarding the case as one of abscess in the broad ligament, I did not attempt to do more than empty and drain it. The sequel showed that the whole cyst should, if possible, have been removed. As to the nature of the abscess, the presence of a quantity of caseous material points strongly to tubercle. No microscopic examination, however, having been made, the tubercular character of the mischief is necessarily conjectural. There is strong reason for believing that all cases of pyosalpinx in the virgin (and this patient had the physical signs of virginity) are tubercular in their character.

Case 8. *Illness of twelve months' duration; tense fluctuating swelling above pubes; pain in left iliac region; pyrexia and wasting; abdominal section; pelvic peritonitis, with encysted collection of serum; fluid removed; immediate relief of symptoms; recovery.*—Alice L—, aged 20, a widow, was admitted to St. Thomas's Hospital May 12th, 1888, with symptoms of pelvic peritonitis, and a supra-pubic swelling which had not hitherto been noticed.

She had given birth, a year previously, to a stillborn child at about the seventh month of pregnancy, and had

suffered from pain in the left iliac region ever since. She had been unable to work, but had not been confined to bed until quite recently. She was now thin, pale, and ill; her temperature was 102·6°, her pulse 114. Above the pubes was a distinctly fluctuating swelling, three inches in its vertical measurement, and extending three inches to the right of the middle line, and a little less to the left. It was tender to the touch, dull on percussion, and immoveable. The uterus was fixed, displaced somewhat to the right, and of normal length. Above the vaginal roof on the left side, a tense brawny swelling could be felt. The fundus of the bladder was situated an inch above the pubes. The swelling was thought to be an abscess.

Abdominal section, May 21st.—The contents of the pelvis were completely roofed over by adherent omentum. On separating the omentum the swelling was exposed to view. A bladder sound was introduced, and showed the fundus of the bladder to reach only to the lower angle of the abdominal incision. A small trocar was passed into the swelling, and a little straw-coloured serum escaped. The opening was enlarged by means of the finger and the cavity explored. It was found to be lined by peritoneum and to be very irregular, dipping here and there amongst the pelvic viscera. It was bounded by the uterus on the right, and by the left broad ligament in front and to the left. A glass drainage-tube was inserted and the abdominal wound closed.

The temperature, which during the week preceding the operation had ranged from 99° to 100·4°, fell at once to normal, and only once reached 99° during convalescence. A little suppuration took place from the tube-track at the beginning of June, but only lasted a few days. On the 6th June the patient was able to sit up. On the 12th the uterus was found still slightly displaced to the right, and a small fluctuating swelling was detected above the vaginal roof on the left side. On the 19th this swelling had disappeared, and the uterus was nearly in the middle line. The patient was sent to a convalescent home on the

20th, and on the 18th of July she returned, looking and feeling perfectly well. She had gained flesh, had a healthy colour in her cheeks, and was in the highest spirits.

In September, 1892, she was readmitted. Having remained well and at work for four years and a quarter, she had a sudden attack of pelvic pain a week before admission. A hard irregular mass was found in the right posterior quarter of the pelvis. Abdominal section was again performed, and the uterine appendages on the right side were removed for chronic inflammatory disease.

This case was a good illustration of the effects of tension. Encysted collections of serum in the pelvis produce no symptoms unless there is tension, when they give rise to severe constitutional disturbance, and may easily be mistaken for pelvic abscess. Indeed, I do not know how the two conditions can be distinguished. The diagnosis is of the less importance, however, as the indications for treatment are the same in both. The reason for the swelling making its appearance above the pubes was that Douglas's pouch was nearly obliterated by adhesions.

An outline of the next case was published in the 'British Medical Journal' for July 20th, 1889. The parts removed at the operation and at the autopsy had already been exhibited at a meeting of this Society, along with a coloured drawing which the Council did me the honour to publish.

Case 9. *Gonorrhœa; right hydrosalpinx; abdominal section; removal of distended tube and adjacent ovary; death from acute peritonitis in fifty-six hours; autopsy; pus in the pelvis, in the left tube, and in remains of right tube; perforating ulcer of intra-uterine portion of both tubes, cicatrising on left, more recent on right.*—Mary C—, aged 19, single, until recently a prostitute, was admitted into Magdalen Ward in May, 1888, suffering from gonorrhœa, and transferred to Adelaide Ward, August

20th, 1888, on account of pain in the left iliac region, supposed to be due to ovaritis.

At the latter part of 1887 she had a yellow vaginal discharge, with pain in both iliac regions, lasting for eleven weeks. After being better for a month these symptoms recurred in March, 1888, when a swelling developed in the left side, which varied in size from time to time. On being admitted to Magdalen she complained of pain only on the left side; she had a thick purulent vaginal discharge, which was most profuse when the swelling was less marked, and less so when it became hard and well defined. Sometimes the discharge was blood-stained. There was no pain on micturition. During her stay in Magdalen she had an attack of very severe pain in the left side, with a high temperature and extreme prostration, thought at the time to be due to acute ovaritis.

On admission to Adelaide Ward there was discovered a slight lateral displacement of the uterus to the left. Lying behind and to the right of the uterus was a not very tense, smooth, oblong swelling, equal in size to an egg, and giving a sense of fluctuation. This was diagnosed as a hydrosalpinx of the right tube, the tube having become occluded at its fimbriated extremity and bent upon itself, so that the outer distended portion lay behind the inner portion and the uterus. There was still a purulent discharge from the vagina. On the evening of September 12th, after having been examined bimanually, the patient was sick and complained of acute pain in the right iliac region. The temperature rose to 103·4°, and the pulse to 134. The patient looked ill and somewhat collapsed. The right iliac region was swollen and tender. It was thought that the swollen tube must have been a pyosalpinx that had ruptured, and it was decided, if the symptoms did not improve, that the abdomen should be opened. Next day, however, the patient was much better, and the temperature fell to what it was before the attack. The swelling and tenderness gradually dis-

appeared. On September 22nd I ventured, for the first time since the attack, to make a vaginal examination. The result was that I found the retro-uterine swelling unaltered, or, if anything, a little fuller and more tense.

On October 18th abdominal section was performed for the removal of the dilated tube, which the illness of the previous month led me to regard as a source of danger. The dilated tube was pyriform in shape, measuring three and three quarter inches in length, two inches and a quarter in breadth at its widest, and an inch and a quarter at its narrowest part. The broadest part was at the fimbriated extremity, which was closed. The dilated portion was confined to the outer part of the tube, and was lying behind the uterus, the undilated part of the tube being bent upon itself. There were no adhesions about the swollen tube, and it was removed, along with the adjacent ovary, without difficulty. The contents of the dilated tube were serous. The left tube felt as though it contained hard nodules in the substance of its walls; the left ovary was adherent. The left appendages were not removed.

The patient died of septic peritonitis fifty-six hours after the operation.

At the necropsy (made by Dr. W. B. Hadden) there were found some recent peritoneal adhesions in the lower part of the abdomen; a small quantity of thick pus was found in the pelvis. There were two black spots on the peritoneal aspect of the fundus uteri, one at each cornu.* The tissues beneath were disorganised. A band-like process of great omentum passed to the gangrenous spot on the left side, and was firmly adherent there. The cavity of the uterus was of average size; the mucous membrane was coated with fluid blood (menstrual?). On opening the remains of the right Fallopian tube from within, the first half of the intra-uterine portion was normal, the second or outer half was ulcerated, and a perforation, seven millimetres in length, existed on its

* See coloured plate in the 'Trans. Obstet. Soc.,' vol. xxx, p. 406.

upper surface corresponding to the gangrenous spot already described as existing on the right cornu of the uterus. From the outer border of the uterus to the point where the tube had been divided the lining membrane appeared healthy. There was a little pus lying in the tube. The left tube was a little dilated, especially at its distal part, which contained some pus. On opening the intra-uterine portion of the tube, the inner half of that portion was healthy in appearance; the outer half was either occluded, or at any rate so constricted that the finest wire could not be made to pass. Between the constriction and the black spot on the peritoneal surface the tissues were softened and of a deep red colour. No communication could now be detected between the interior of the tube and the peritoneal cavity. Beyond this were two hard nodules (gummata ?) which, on section, were seen to be pale circumscribed masses of exudation, completely surrounding the mucous membrane. The left ovary was of normal size and much softened.

This case, so far as I know, is unique. It shows to what unsuspected risks patients suffering from gonorrhœal salpingitis are exposed. If ulceration can take place in the intra-uterine portion of the tube to such an extent as to destroy the whole thickness of the uterine wall, and, perforating the peritoneal coat, allow the purulent contents of the tube to discharge themselves into the peritoneal cavity, it is obvious that even removal of the tubes would not suffice to avert the risk. Fortunately this portion of the tube appears to be ulcerated so rarely that, for practical purposes, we may leave this danger out of account. Besides, the case before us shows that perforation is not necessarily fatal. There can be little doubt that the alarming symptoms that supervened whilst the patient was in Magdalen Ward, when it will be remembered all the suffering was on the left side, mark the time when the perforation of the left tube occurred; and that the equally alarming symptoms that occurred after an examination in the month of

September marked the precise moment when the perforation took place on the right side. On both these occasions the patient became collapsed, and was for some hours in extreme danger, but the peritoneum of this young and robust subject proved equal to the emergency, the extravasated matters became absorbed, and a friendly band of omentum sealed up the aperture. The hydrosalpinx, which was the only lesion discovered or discoverable on vaginal examination, was, of course, a mere retention-cyst produced by the closing, during one of the attacks of pelvic peritonitis, of the fimbriated end of the tube. In itself the lesion did not justify an operation, but it was evident from the recurrent attacks of acute pelvic inflammation that there was something more than hydrosalpinx. Hence I decided to open the abdomen. I did not, however, even during the operation discover anything beyond the hydrosalpinx. The black spots at the uterine cornua were concealed from view by bands of omentum, and the left tube, in external appearance, was as nearly as possible normal. With regard to the fatal result of the operation, I am quite unable to offer an explanation. I instituted a most minute inquiry as to the possibility of any antiseptic precaution having been overlooked, but without result.

Two other points I wish to call attention to before I pass on, namely, (1) the fact that in the same tube a collection of serum may exist at one end, and a collection of pus at the other; and (2) the fact that rupture of the Fallopian tube may take place at a part where there is no appreciable dilatation. To this latter point Dr. Lewers has already directed attention (see 'Trans. Obst. Soc.,' vol. xxvii, p. 298).

Case 10. *Recurrent pelvic peritonitis; constant pain more or less severe, and general feeling of illness for last fifteen months; fluctuating tumour above pubes; abdominal section; removal of pedunculated retro-peritoneal cyst with two daughter-cysts, the latter suppurating; death on eighth*

day; autopsy: small quantity of pus in pelvis; partial obstruction of small intestine at site of old adhesion.—Sarah T—, aged 32, single, a dressmaker, was admitted into Adelaide Ward December 13th, 1888. Five years ago, when over-worked as a teacher, she caught cold (not during a menstrual period), and had a severe illness with much abdominal pain, incapacitating her for six months. After she came to reside in London she felt well until the autumn of 1887, when she had a similar attack; a third took place three months before admission. Since that time the abdominal pain has been constant, sometimes severe, sometimes slight. Menstruation has been regular and painless throughout.

On admission, patient looked thin, sallow, ill, and tired. She was of a highly nervous temperament and unusually intelligent. She complained of some fulness at the lower part of the abdomen, but was not aware of the existence of any tumour.

The abdomen was rendered very slightly prominent by a rounded fluctuating tumour, situated almost centrally and reaching from pubes to umbilicus, a distance of 6½ inches. It extended 3 inches to the right and 2½ inches to the left of the middle line; it was dull on percussion. The uterus was normal in size and consistence, and was pushed to the left side, the sound passing with difficulty after being slightly bent. The urine was loaded with lithates. Temperature ranged from 98·6° to 101°.

Abdominal section December 20th, 1888. The omentum was adherent to the cyst, and there were some recent adhesions to the anterior abdominal wall, especially on the right. After these had been separated, the cyst, which was covered by peritoneum, was tapped. Thirty fluid ounces of dark brown fluid (proving on microscopical examination to be altered blood) were removed, with some thick, grumous, flaky material, and, towards the end, some pus. The cyst-wall was very pliable, and gave way in all directions on the slightest manipulation. The remaining adhesions were then separated; they were very numerous,

firm and vascular, and involved intestine, mesentery, and parietal peritoneum. The pedicle, which could not be brought into view, was secured with a single ligature and divided. The cyst consisted of one main and two daughter cysts; the latter had both been in a state of suppuration, and had burst into the main cyst during the operation. The right Fallopian tube was not seen. The uterus and the left ovary and tube were matted densely together by old adhesions; Douglas's pouch was obliterated by adhesions. The peritoneum was flushed, a glass drainage-tube was inserted into the right side of the pelvis, and the wound was sutured.

At 9.30 a.m. the following day there had been no sickness; the tube was removed.

On the third day (December 22nd) patient became very restless, and the pulse rapid, flickering, and uncountable. There was no pain.

On December 23rd the condition was very alarming: extremities cold, bowels acting involuntarily, respiration embarrassed, slight distension of abdomen; no pain and no sickness. Towards evening patient appeared to be moribund. At 4 a.m. on the 24th she was apparently dying, when suddenly she sat up and asked to have the pillow changed. During that day she remained a trifle better, but continued very nervous and irritable. The bowels were relaxed, the motions passing unconsciously. She continued in much the same state and quite conscious up to 4 a.m. on the 27th, when she lost consciousness, and she died at 8 a.m.

The highest temperature on the day after the operation (viz. on December 21st) was 100·6°; on the 22nd, 99·8°; on the 23rd, 100·4°; on the 24th, 99°; on the 25th, 97·6°; after which it rose once to 99·2°, but was generally sub-normal.

Autopsy (by Dr. H. P. Hawkins).—Omentum firmly adherent to wound; a small collection of pus under its lower end. Lower end of omentum, passing through coils of small intestine, was firmly attached by an old adhesion

to the back of the pelvis, by the side of the rectum and transverse colon, which latter, collapsed and empty, had been drawn out of position by the omentum. Superficial coils of small intestine much distended with gas; some injection of vessels along lines of contact, but only a few shreds of lymph. There was a little blood-stained fluid free in the lateral parts of the peritoneal cavity. The coils of intestine that lay in the pelvis were acutely inflamed, and adherent to each other by soft, recent blood-stained lymph. Between the coils on the left side was a collection of about half a fluid drachm of green viscid pus. On removing the intestines the floor of the pelvis seemed levelled by adhesions and deposit of inflammatory material, there being no sign of bladder, uterus, ovaries, or broad ligaments. On this floor lay two or three fluid ounces of viscid greenish pus, without odour. The uterus and adnexa were scooped out. The left ovary and tube were adherent on all sides, and lay behind the uterus and left broad ligament. The right ovary and tube were also found amidst a mass of adhesions. The remains of the pedicle, with ligature attached, were found projecting from the peritoneum, covering the lower part of the back of the corpus uteri. The uterus itself was normal. The tumour removed was evidently a cyst underlying the peritoneum. There had been no secondary hæmorrhage. Where a coil of small intestine crossed the right side of the pelvic brim, it was firmly attached to the psoas by old adhesions, causing partial obstruction. Meckel's diverticulum and the appendix vermiformis were normal. Left pleura completely and firmly adherent, the lung being torn during removal. Right pleura adherent over apex. No fluid in pleuræ. A few caseous or partially calcified nodules at apex of left lung. Some hypostatic basal congestion. Anterior surface and edge of right lung extremely emphysematous; caseous nodules at apex, rest healthy. Heart and other organs normal.

Of the two possible causes of death in this case, viz. the partial obstruction of the small intestine and the

septic peritonitis, the latter seems the more probable. There is little doubt that the source of infection was the purulent matter that escaped from the cyst during the operation, a portion of which must have remained in spite of the flushing. Any way, I determined not again to rely upon flushing alone in the event of a similar accident, but to sponge carefully whether I flushed or not.

With regard to the precise nature of the cyst I do not feel able to offer an opinion. It was not connected with either of the tubes, the ovaries, or the broad ligaments. It was covered by peritoneum, and was attached by a distinct pedicle to the back of the uterus, an unusual position for a cyst of this character.

The case, though an exceptional one, is included in this series because the patient sought relief, and the operation was undertaken, on account of the recurrent attacks of pelvic peritonitis.

Case 11. *Chronic salpingitis and chronic pelvic peritonitis; hæmorrhage from both Fallopian tubes, forming intra-peritoneal hæmatocele on each side of the pelvis, encysted amongst old pelvic adhesions and embraced by the expanded fimbriæ of the tubes; abdominal section; removal of blood-clots and both tubes; death on ninth day from acute nephritis.*—The patient, a married woman aged 32, had recovered well after each of her four confinements, the last of which took place two years and seven months ago. Eighteen months ago she had a miscarriage, followed by an illness of eight weeks' duration. There had been two early miscarriages since, the last one twelve weeks before admission. The patient dated her illness from that time. She had suffered during the past month from pain in the back and in the right iliac region, and latterly there had been pain during micturition and defecation.

Nothing abnormal could be detected in the abdomen. Behind and to the right of the uterus, which was of normal size, fairly moveable, and situated slightly to the left, was a smooth, firm, elastic, immoveable swelling, which

occupied the right posterior quarter of the pelvis, and extended an inch to the left of the middle line. The left fornix was narrowed. High above it could be felt an obscure swelling, tender on pressure. I have unfortunately no note of the diagnosis. All I can say on this point is that I was not prepared to find that the main swelling was a blood-clot.

On opening the abdomen, a rounded solid tumour, apparently continuous with the right Fallopian tube, was found occupying the retro-uterine pouch, and extending outwards to the right pelvic wall. From the outer side of the swelling the tube curved forwards and inwards to the right cornu of the uterus. The mass was fixed by extremely firm adhesions to the pelvic walls and to the rectum. On the left side a similar but much smaller mass was situated behind the left broad ligament. The body of the uterus was free and fairly moveable. With the exception of the rectum, the intestines were not involved. It was evident there had been old pelvic peritonitis, and that amongst the matted tissues were two solid tumours, one on each side, that on the right being the larger. The masses were with extreme difficulty separated by the fingers. The larger tumour was first brought into view. It consisted of a firm blood-clot, equal in size to a hen's egg, and of a more or less globular shape, and was embraced by the expanded fimbriæ of the right tube. The tube itself was thickened, empty, and undilated, and was bent backwards upon itself. The broad ligament was also much thickened. The ovary was not seen. The tube was removed with the tumour. The smaller mass, on the left side, also consisted of firm blood-clot, laminated and partly decolourised. Like its fellow, it was embraced by the fimbriæ of the corresponding tube. The tube and blood-clot were removed. The ovary, white and shrivelled, was firmly adherent to the pelvic wall, and was not removed.

The patient was much collapsed after the operation. Next day the urine was found to contain a trace of albu-

men. The quantity of albumen increased, and the urine became scanty and smoky. Death took place on the ninth day, the temperature, except on the day following the operation, having been uniformly under 100°.

At the autopsy the kidneys were intensely hyperæmic, and generally showed evidence of acute nephritis. The retro-uterine pouch was occupied by two feet of small intestine, which had contracted slight adhesions. On removing them the pouch was seen to be lined with a thin layer of firm stratified blood-coagulum, one sixth to one eighth of an inch in thickness. No fluid blood was present; no pus; no general peritonitis: no serous effusion; no obstruction or strangulation of bowel; no visceral injury. The ureters also were normal and uninjured. The post-mortem examination was made by the late Dr. Gulliver. He concludes his report by stating that, in his opinion, the cause of death was acute nephritis, the parts concerned in the operation appearing to be as healthy as could be desired.

I believe a complete diagnosis before operation was in this instance impossible. The hæmorrhage appeared to have been secondary to inflammatory changes in the tubes, and the clots assumed their misleading shape and position from being imprisoned amongst old pelvic adhesions. The cause of death was, so far as my experience is concerned, an unusual one after these operations.

Case 12.—*Recurrent pelvic peritonitis extending over five years; abdominal section; chronic inflammation of both Fallopian tubes; small suppurating cyst of left ovary; removal of both ovaries and both tubes; uninterrupted recovery.*—The patient (S. A. W—), an unmarried girl aged 22, had been delivered of a full-term child at the age of fourteen. Two years afterwards she began to suffer from pain and swelling in the lower part of the abdomen, and a yellow vaginal discharge, for which she [illegible] t a course of treatment in the Bridgnorth Infir- [illegible] o years later she had a recurrence of the sym-

ptoms, and again became an inmate of that institution. Five months before admission she is said to have caught cold during menstruation ; an attack of shivering occurred, and the flow ceased for a few days. In two months from that date she sought admission into the Bridgnorth Infirmary for the third time ; she remained there, in bed, for six weeks, and was then transferred to St. Thomas's Hospital.

She was pale but not emaciated. She complained of pain in the back and in the right iliac region. The uterus was normal in length, fixed, and strongly flexed to the right. Extending from the uterus to the left pelvic wall was a thick, smooth, hard, elastic, slightly moveable mass, the outer extremity of which was on a level with the anterior superior spine of the left ilium, and three quarters of an inch internal to it. She had come up to London with the view of undergoing an operation, but as the pyrexia, which had been a very marked symptom up to the time of leaving Bridgnorth, disappeared from the moment of her arrival at St. Thomas's Hospital, I thought the swelling might be merely a hydrosalpinx surrounded by firm adhesions, and determined to watch the case a little before proceeding to operate. She was accordingly kept in bed for six weeks. At the end of that time, the swelling being no less, and the patient, though less anæmic, being still unable to move about, it was decided to make an exploratory incision. Only on two occasions (February 11th and March 1st) had the temperature exceeded the normal during the whole six weeks.

On March 21st the abdomen was opened. On the left side was found a small ovarian cyst, 3½ inches long by 2¼ inches wide, filled with thin flocculent pus. The left tube, thickened and dilated, was adherent to its surface. Cyst and tube were separated from their adhesions and removed. On the right side the Fallopian tube was found dilated, its walls œdematous, and its fimbriated extremity adherent to the floor of Douglas's pouch. The ovary was double its normal size and almost universally adherent.

The tube and ovary were separated from their adhesions and removed.

Convalescence was uninterrupted, the temperature never exceeding 100°.

I had a letter about her in January, 1891. She was quite well, free from pain, and following her employment as a domestic servant.

This case tells its own story. I need not, therefore, detain you by comments upon it.

Case 13. *Recurrent pelvic peritonitis and cellulitis; hard mass behind and to left of uterus, thought to be sub-peritoneal fibroids; great improvement under rest; re-admission a year afterwards; exploratory incision; diagnosis confirmed; discharge of pus* per rectum; *abdomen reopened; deep-seated abscess opened, emptied, and drained; recovery.*—The patient, a married woman aged 39, had borne seven children and had had two miscarriages. After her last confinement, which took place twelve years ago, she was ill and feverish for two weeks.

On admission, May 23rd, 1888, she had been losing flesh and in poor health for twelve months, for the last four of which she had been suffering from abdominal pain and tenderness, worse after walking. A fortnight before admission she had had a sudden attack of acute pain, and the bowels had not acted for six days. The pain continued more or less up to her admission, and was accompanied with vomiting. She was a tall, strongly built woman, but pale, emaciated, and very ill. Above the vaginal roof, posteriorly and to the left, was a hard, tender, irregular mass. The cervix was fixed, and partially surrounded by induration.

The patient was kept in bed for a month and poulticed, her temperature being normal throughout. At the end of that time she had improved immensely, having regained flesh and lost her look of illness. The resistance and tenderness in Douglas's pouch had diminished, and the hard lump on the left side was more clearly defined.

The case was thought to be one of subperitoneal fibroids of the uterus, with pelvic peritonitis and cellulitis. She remained in the hospital another month, still continuing to improve in her general condition, and was discharged on the 2nd August, 1888.

She remained well until October, 1888, when she again began to fail. Shortly after that she attended as an out-patient occasionally, and on July 17th, 1889, she was readmitted into the ward. Her general condition was much the same as when she was first admitted, fourteen months previously. There was no increase of temperature. A large, irregular swelling could be felt on bimanual examination extending from the uterus posteriorly, and to the left lateral wall of the pelvis. I was still inclined to the belief that the main swelling was a mass of subperitoneal fibroids, but there being an element of uncertainty about it, I suggested an exploratory incision, to which she eagerly consented

On August 2nd, 1889, I accordingly opened the abdomen. Behind and to the left of the uterus, was a smooth hard mass, quite immoveable, and covered by the peritoneum, to which coils of intestine were adherent. No fluctuation could be detected in it. The mass appeared to spring from or to be very closely attached to the left side of the uterus. The impression conveyed was that of a fibroid burrowing beneath the peritoneum. Under these circumstances the abdomen was closed without any attempt at further interference.

After the operation the bowels acted five times, and one of the motions was observed to contain a quantity of pus. It then transpired for the first time that yellow matter had from time to time been evacuated with the stools since the month of May. This threw a new light upon the case. It was now fairly certain that the mass, which had been thought to be a fibroid, was a thick-walled pelvic abscess, which communicated with the rectum, the size of the aperture being insufficient for complete evacuation. The temperature still remained normal. I proposed, how-

ever, in the light of the fresh facts which had come to my knowledge, to reopen the abdomen. I did so, four weeks after the former operation. The internal appearances were the same as on the last occasion. I now proceeded to pass a medium-sized trocar into the swelling (after having cleared it of adherent intestine, &c.), and withdrew an ounce or two of very offensive pus. I then removed the trocar and cannula, and enlarged the opening, by means of a scalpel, to a size sufficient to admit my finger, which passed deeply down into a smooth-walled cavity. The edges of the opening were then secured to the edges of the incision in the abdominal wall by two silk sutures on each side, and a 4-inch glass drainage-tube inserted. A second drainage-tube was passed down to the pelvic floor on the right side of the uterus, to drain the peritoneal cavity. The upper part of the abdominal wound was then closed by silkworm gut sutures in the ordinary way.

The patient made an excellent recovery. She had no vomiting and no rise of temperature from beginning to end. The drainage-tube in the peritoneal cavity was removed the morning after the operation. Within forty-eight hours of the operation all the sutures connecting the abscess-cavity with the abdominal incision were removed, and the glass drainage-tube used to drain the abscess-cavity was replaced by one of india-rubber. This was finally removed, on the fourteenth day, and on the twenty-eighth day all discharge had ceased.

The patient left the hospital on the 28th September stout and well, and has remained well ever since, except that she has a hernial protrusion at the lower part of the abdominal wound. There has never been seen the slightest stain of matter from the rectum since the day of operation.

I have described this case in some detail because our most useful lessons are learnt from our mistakes. I ought to have known there was pus in that pelvis from the recurrent peritonitis, which I now know to be a far truer test than the temperature. Even when the operation was concluded I felt unable to give an opinion as to the

precise character and situation of the abscess. I have no doubt now, after larger experience, that it was either a pyosalpinx or a small suppurating cyst of the ovary, adherent to and covered in by an enormously thickened broad ligament. I have also no doubt that if I had to operate on the case to-day I should not be satisfied with emptying and draining, but should remove the diseased part, after separating it from its adhesions to the broad ligament and other surrounding structures. Had this been done, the hernia would in all probability have been avoided.

Not less interesting or less successful is the case that comes next in order.

CASE 14. *Recurrent attacks of pelvic peritonitis following gonorrhœa; great emaciation and inability to earn a livelihood; abdominal section; purulent salpingitis with intra-peritoneal abscesses; left tube removed; abscesses emptied and drained; acute pneumonia; recovery.*—A brief account of this case appeared in a paper published in the 'British Medical Journal' for December 27th, 1890, on the "Differential Diagnosis of Pelvic Inflammations," from which I take the liberty of quoting a paragraph or two. The patient was "a young woman, aged 28, with a worn, pale face, and wretchedly thin. She was admitted September 10th, 1889, complaining of severe pain in the lower part of the abdomen, and with a temperature of 101½°. She had been married five years, but had been separated from her husband for three years on account of his intemperance and cruelty, and during this time had had to maintain herself and her two children by dressmaking. Only on one occasion since their separation had she and her husband cohabited. This act of intercourse took place twelve months before her admission. Very soon afterwards she began to have a profuse yellow vaginal discharge. . . . In a few weeks she became too ill to continue at her work, and had to give up her home and go into the parish infirmary with her children. She came out in three or four months, but soon had to

return. She again took her discharge and resumed her occupation. Her health, however, soon gave way again. She suffered great pain in the lower part of the abdomen, in the groins, and in the back, and eventually sitting became so difficult and painful that she had to relinquish her employment, and for some weeks before admission she had subsisted on the generosity of friends."

The uterus was pushed over to the left side and to the front by a tender, irregular mass filling the right side of the pelvis and Douglas's pouch. The diagnosis was gonorrhœal salpingitis with suppuration, and pelvic peritonitis.

"Abdominal section was suggested and readily agreed to. The operation was performed on September 14th, 1889. There was no general peritonitis, but the pelvis was occupied by a mass of adherent viscera, difficult to recognise and separate. The uterus, of normal size, lay in front and to the left." The left tube, much thickened, first ascended and then curved abruptly downwards and backwards, so that it lay mainly behind the uterus, where it was firmly adherent. At the angle of flexion it presented a distinct knuckle of enlargement. Its upper surface was free. Its lower surface was coated with old blood-clot, and formed part of the wall of a small abscess-cavity, from which, when opened, there welled up blood-stained serum, lymph flocculi, and pus. The cavity was intra-peritoneal. The broad ligament was much thickened, and both it and the swollen tube were so friable that when the tube had been separated from its adhesions, and was about to be removed, the ligatures placed around the broad ligament tore through. Some bleeding took place from the torn surface, and was arrested by four fine silk ligatures passed through the broad ligament, and tied over the cut surface. On being removed the tube was seen to be pervious throughout. A thin, purulent fluid exuded from it on pressure. Its walls were greatly thickened, as also was the mesosalpinx. Drawings of the tube were published in the paper already alluded to.

The right tube was less thickened but much distorted,

and very intimately adherent to surrounding parts. Its direction was first forwards, then backwards and downwards, terminating behind the uterus. The cæcum and its appendix being apparently involved in the adhesions, the tube was not removed. It was separated, however, sufficiently from its adhesions to open up a second small abscess-cavity, distinct from that on the left side, and separated from it by a vertical septum. The contents of the two cavities were similar. A glass drainage-tube was inserted into each cavity after it had been well douched with hot boracic solution. The ovaries were not distinguished. The operation lasted an hour and a half.

"The patient had a severe attack of pneumonia after the operation, and there was a good deal of suppuration through the drainage-tube before the abdominal wound entirely closed, but she eventually made an excellent recovery, gaining flesh, and looking quite bright and cheerful. Before going out she complained of a vaginal discharge, which, on examination, proved to be due to a purulent inflammation of the urethra and nymphæ, and to a purulent cervical catarrh, for which she underwent the usual treatment before she left the hospital. The gonorrhœal origin of the pelvic inflammation was thus abundantly confirmed. The patient was able to be sent to a convalescent home on October 29th," after being seven weeks in the hospital.

I have recently been at some pains to trace her whereabouts, but without success, so that I am unfortunately not able to report her present condition, or to say whether the remarkable improvement effected by the operation has been maintained.

The case, as I have already remarked elsewhere, was a typical example of the class of cases that until recently were regarded as pelvic cellulitis, and treated accordingly.

CASE 15. *Recurrent pelvic peritonitis following gonorrhœa; fixed, tense, oblong swelling in right side of pelvis, with purulent endometritis; abdominal section; pyosalpinx*

on right side; prolapsed and adherent but otherwise normal ovary; right tube and ovary removed; recovery without rise of temperature; readmission for curettage of uterus; cure.—The patient was a prostitute, aged 22. Two years ago she had a yellow vaginal discharge and a sore, followed by enlarged glands in the groin, and, later, by sore throat and blotches on the face. Four months ago she was seized with sudden and severe pain in the lower part of the abdomen, chiefly in the right iliac region, shooting down the right thigh and causing her to draw up the knee. She was feverish and kept her bed for two days. She vomited several times and had diarrhœa. There was a somewhat copious vaginal hæmorrhage, and irregular hæmorrhages have occurred from that time, especially after exertion and always after intercourse. A similar attack of pain with fever took place a fortnight after the first attack, and a third one two weeks ago. On each occasion she was in bed for about three days.

Patient is a healthy blonde, in good muscular condition. She has had more or less vaginal discharge, sometimes white, sometimes yellow, ever since the acute attack of gonorrhœa two years ago.

There is no abdominal swelling, but a feeling of resistance in the right iliac region. The vulva is normal, save for a stain, such as would be produced by silver nitrate, on the fourchette. Uterus is of normal size, displaced to the left and fixed. In the right posterior quarter of the pelvis there is a fixed, ill-defined, tense, oblong mass, which can be felt to bulge into the rectum anteriorly and to the right side. Nothing abnormal can be detected to the left of the uterus. At the bottom of Douglas's pouch can be felt a small cystic swelling, like an ovary. Temperature normal.

The diagnosis was right pyosalpinx, with prolapsed and adherent ovary.

The patient being willing to have an operation, the abdomen was opened on October 17th, 1889. The right tube and ovary were displaced behind the uterus and

firmly matted to surrounding parts. The tube was enlarged, tortuous, and distended; its closed fimbriated end, measuring an inch in diameter, was adherent to the bottom of Douglas's pouch. The tube was studded with a number of subperitoneal cysts; one at the outer end had been felt on vaginal examination, and had been mistaken for a small prolapsed cystic ovary. At the angle of flexion, near the uterine end of the tube, the adhesions were very firm to the vermiform appendix and other parts. The ovary was slightly enlarged, and contained a number of cystic dilatations, some of them being filled with serum, others with altered blood.

The right tube and ovary were removed. The tube was found to be distended with pus. The left appendages appeared to be normal.

The patient made an uninterrupted recovery, her highest temperature being 99·4°. She left the hospital on the seventeenth day. A month later she returned, by arrangement, to be treated for purulent endometritis. The cervix was dilated, the interior of the uterus curetted, and Churchill's iodine solution applied on cotton wool. She was discharged in three days, feeling quite well. She presented herself fifteen months afterwards, and was quite well. She had remained free from pain and discharge, and menstruated regularly. A vaginal examination revealed nothing abnormal in the pelvis.

This case is a typical example of pyosalpinx, from the spread of gonorrhœal infection along the endometrium to the tube. When once pus has collected within the tube, there is no way of escape for it but in a vicious direction, and hence the only satisfactory method of treatment is to remove it by operation. The case again illustraets the uselessness of the thermometer as a test of the presence of pus in the pelvis, a much safer criterion of which is the occurrence of repeated attacks of pelvic peritonitis.

CASE 16. *Menorrhagia and dysmenorrhœa for fourteen years; occasional treatment by pessaries, dilatation, and*

hot injections, with only temporary relief; right side of pelvis and retro-uterine pouch occupied by an irregular swelling, thought to be due to disease of right tube and peritoneum; abdominal section; inflammation of right tube, right broad ligament, and pelvic peritoneum; cystic disease of right ovary; left appendages apparently normal; removal of right tube and ovary; death from shock (?); autopsy; uterus and left tube full of purulent mucus.—Lydia B—, a single woman aged 34, head nursemaid in a private family, was sent to me for my opinion under the following circumstances. Menstruation commenced at the age of fourteen, and was regular and painless until the age of nineteen, when she began to have pain before the flow, and the periods became more frequent and the loss greater. This went on for four years before she sought advice. She was then examined, and was told that she had inflammation of the womb. She was laid up at home for seven weeks, and injections of hot water were ordered. After that she attended as an out-patient at the Soho Hospital, and wore a pessary for three months. Three years later, being no better, she saw Dr. Braxton Hicks at Guy's Hospital, who said the passage was too small, and would have to be stretched. She was an in-patient for a fortnight, when she underwent an operation the nature of which she did not know. She afterwards attended at Guy's as an out-patient, and wore a pessary for nine months. For the next four years her condition was improved, though she never felt well. In June, 1888, she became worse, and in December the pain was so severe and she was so faint and sick at each period that she again took medical advice. The passage was again declared to be too small, and was dilated on two occasions just before her periods. She was ordered four or five hours' rest every day, and hot vaginal injections. She was said to have descent of the womb, and a ring pessary was inserted, which she wore for three months. She then came under the care of Mr. Hosking, of Turner's Hill, complaining of severe pain

in the lower part of the abdomen on the left side, and in the right leg. Examination *per vaginam* occasioned great pain, especially on the left side. Nothing gave relief but morphia and rest in bed. These did much good, except to the pain in the left side, but at the next period all the suffering returned, and the pain became so constant that Dr. Hosking advised that another opinion should be taken.

The abdomen was normal in appearance and on palpation. On bimanual examination *per vaginam,* the uterus was found fixed, normal in size and position. There was no depression of the lateral fornices. An irregular nodular swelling filled up and depressed the retro-uterine pouch. In connection with it a sausage-shaped mass could be traced from the right side of the uterus, twisted upon itself, and descending backwards and inwards towards the swelling in Douglas's pouch. An examination of the left side of the pelvis caused more pain than the right, but nothing abnormal was detected to account for the tenderness.

The diagnosis was suppurative salpingitis with pelvic peritonitis. Operation was advised and agreed to.

On opening the abdomen the right Fallopian tube was found thickened, and bent backwards and inwards in the direction of a mass filling up the pelvis behind the uterus, and intimately adherent to the surrounding peritoneum, which was enormously thickened. The separation of this mass was difficult, and took up much time. During the manipulations a quantity of thin fluid, of a reddish-brown colour, escaped. On bringing the mass into view it was seen to consist of the cystic right ovary (the largest cyst in which had burst), embraced by the right Fallopian tube and broad ligament, both of them many times their normal thickness. The tube was empty, and its lumen not appreciably widened. The broad ligament was soft and friable, and the ligature cut through it, necessitating a second ligature around the pedicle. The left adnexa were to all appearances normal, and were not disturbed. The operation lasted 1 hr. 10 min.

Seven hours after the operation the patient had not rallied from the shock, and on removing the dressings the pads were found so saturated with blood that it was decided to reopen the wound and search for the bleeding point. This was done, but no bleeding point was discovered. The pedicle was further secured by another ligature. The infundibulo-pelvic ligament was also transfixed and ligatured to make sure of the ovarian artery.

The patient never rallied. The legs were bandaged in flannel, ether was given subcutaneously, brandy and water and champagne were given by the mouth, and, lastly, the patient was placed in a blanket-bath, but all to no purpose, death occurring forty-seven hours after the operation. There was no vomiting throughout, but there was more or less suppression of urine from the time of the operation. The quantity drawn off on the 25th was as follows :—at 2 a.m., 4 fl. oz.; at 9 a.m., 6 fl. dr.; at 4 p.m., none; at midnight, 1 fl. dr.; and at 4 a.m. on the 26th, none. The temperature an hour after the operation was 96°; for the next twelve hours it was from 98° to 98·6°; then it rose 100·4°, and from that time forward varied from 100·8 to 101·6.

Dr. Hadden made a post-mortem examination forty-eight hours after death. The wound had united. The intestines were distended. The stomach contained much dark green fluid. There was no peritonitis and no blood in the peritoneal cavity. The bladder was empty. The right ureter was carefully dissected out and found intact. Kidneys healthy and pale. Lungs gorged with blood. Heart nearly empty; firm clot in right auriculo-ventricular valve. Uterus large, some muco-pus in its cavity; lining membrane hyperæmic. Left Fallopian tube normal in length, consistence, and general appearance. On section it was, however, found to contain thick muco-pus along its entire length.

I have described this disappointing case so fully that my comments upon it must be brief, although many points suggest themselves for remark. What was the origin of

the pelvic inflammation? Was it septic? If so, was the infection conveyed on one of the occasions when the cervix was dilated? Was the cystic condition of the ovary secondary to the peritonitis? What is the lesson to be learnt from the fact that the apparently healthy left tube was found after death to be full of pus? Is it that where one tube is found manifestly diseased both tubes should be removed? What was the cause of death? If it was shock, why was the shock so profound? Was the reopening of the abdomen in any way accountable for the fatal result, and was it justified? These are some of the questions that suggest themselves—questions, it seems to me, more easily asked than answered.

Cases 17 to 21 have been published very fully elsewhere: Cases 17, 18, and 20 in the 'St. Thomas's Hospital Reports,' vol. xix; Cases 19 and 21 in the 'Brit. Med. Journ.,' December 27th, 1890.

Case 22. *Sudden pain in left iliac region six months after an attack of phlegmasia dolens in the left leg; soft non-fluctuating swelling on left side of pelvis displacing uterus to right; patient very ill, with high temperature; abdominal section; mass situated between layers of left broad ligament, with surrounding adhesions; appendages healthy; adhesions partially separated; tumour not disturbed; abdomen closed; recovery.*—A married woman, aged 27, was admitted January 10th, 1890, looking pale and ill, and complaining of great weakness and of severe pain in the left iliac region. She had borne seven children, all her labours having been easy and natural until the last one, which took place in April, 1889. On that occasion the arm presented, and delivery took place under an anæsthetic in the Maternity Home at Battersea. About three days after delivery patient was hot and restless, and had pains all over. She rose on the tenth day, but was at once seized with pain in the left leg, and returned to bed. "White leg" supervened, and patient was laid up

seven weeks in the hospital and three weeks at home. After this she felt well, though the leg ached in wet weather. Menstruation became re-established, and continued regular up to her present illness.

On January 4th, in an interval following a menstrual period, patient was suddenly seized with acute pain in the left side of the lower part of the abdomen, obliging her at once to discontinue her work and go to bed. Four days later, the pain being still present, she commenced to vomit, rejecting everything she took.

On admission the abdomen presented a normal appearance. No tumour could be seen or felt. There was some tenderness with a sense of resistance over the left iliac region. Bimanually the uterus was found anteflexed, the fundus being pushed somewhat to the right. The left fornix was depressed, the bulging having an even and regular contour. The tenderness was too great to permit of a very thorough examination, but a swelling of considerable size could be made out on the left side of the uterus, elastic but not fluctuating. The tissues around the upper portion of the cervix were swollen both in front and behind.

On the 13th January the pain had increased, especially towards the back. There was a sensation of pressure on the bowel. The patient was very ill, and the temperature varied between 100·2° and 104°.

The diagnosis being pelvic abscess, it was determined to open the abdomen the following day—if the symptoms were not relieved in the meantime. Next day there had been a slight purulent discharge from the rectum, mixed with much mucus, and the patient appeared much relieved. The operation was therefore postponed until the 17th. The temperature on the 14th varied between 101° and 104·2°, on the 15th between 99° and 101°, and on the 16th between 98° and 99·4°.

A further vaginal examination was made on the 15th. The œdematous swelling about the vaginal reflection had disappeared. Through the left fornix could be felt a

large tense mass, tender to the touch, continuous with a swelling behind the uterus, pushing it forwards and to the right. The vagina was shortened on the left side, but there was no brawny condition of the roof, such as to indicate the presence of cellulitis.

On opening the abdomen the swelling was found to be situated between the layers of the left broad ligament. Its surface was even, and its consistence soft but solid. It distended the broad ligament along its whole length, displacing the uterus forwards and to the right. There was no sulcus between the uterus and the swelling, the uterus being differentiated only after inserting a sound. Posteriorly the mass was adherent to the tube, ovary, and pelvic wall, and there was some adhesive peritonitis to the right of the uterus. After separating some of the adhesions it was decided not to interfere further, it appearing probable that the swelling was a hæmatoma. The right tube and ovary were normal, and lay behind the displaced uterus. A drainage-tube was passed into the retro-uterine pouch and the abdomen closed. The tube was removed in six hours. The temperature for the first two days ranged from 99·4° to 102·6°; after that it seldom exceeded 100°.

Three weeks after the operation the mass had diminished considerably, especially at its outer part, both in height and thickness. The uterus was in the middle line. A week later the patient went home nearly well. I met her some weeks afterwards. She was very well, though still conscious of discomfort on the affected side after prolonged exertion.

It seems probable that the pus discharged from the rectum with such signal relief to the symptoms, four days after admission, was due to the bursting of a small abscess. There was no evidence of fluctuation in the tumour when exposed at the operation, and it was, therefore, not meddled with. The suddenness of onset led me to regard the effusion as a hæmatoma of the broad ligament. The peritonitis was evidently secondary.

CASE 23. *Sudden attack of pain nine weeks after last menstruation, followed by a hæmorrhagic discharge from the vagina continuing for three months, with an intercurrent attack of inflammation; elastic non-fluctuating mass behind uterus and left broad ligament; no change after a fortnight's rest; abdominal section; mass of old blood-clot enucleated; uterine appendages not disturbed; recovery.*—A married woman, aged 28, the mother of two children, was admitted January 6th, 1890. She stated that on September 20th, 1889, nine weeks after the last menstrual period, she was seized somewhat suddenly with pain in the lower part of the abdomen, of an intermittent character, with nausea and faintness. She did not think she was pregnant at the time, nor does she think so now. Two days after this attack a hæmorrhage from the vagina commenced, and this has continued almost without intermission up to three days before her admission, that is, for over three months. On the ninth day she had to lie up for what was said to be inflammation of the womb, and remained in bed for three weeks. Defecation was preceded by severe pain.

On admission she was somewhat anæmic. She had no abdominal swelling; the abdominal muscles were flaccid; there was some tenderness in the left iliac region. An oval swelling of the size of an orange was discovered, on bimanual examination, behind the uterus and the left broad ligament. The swelling was smooth and elastic, but non-fluctuating; its long axis was directed forwards and to the left; it was moveable within certain narrow limits, and could be traced as being closely connected with the left uterine appendages.

There was at this time no hæmorrhage or pain. The temperature was normal.

No change having taken place in the swelling after a fortnight's rest in bed, abdominal section was proposed and agreed to.

The operation took place on January 21st, 1890. The uterus was pushed forwards by a mass behind, which was

closed in by adhesions. The adhesions having been partially separated, the mass was enucleated, two or three fluid ounces of serum escaping during the process. When removed, the mass was found to be composed of an outer wall of firm blood-clot, containing within it a quantity of soft, disintegrating blood-clot of a brown colour. No trace of organised structure could be detected. The mass measured 3 inches by 2 inches. The cavity left had a smooth internal surface, and was encircled by the broad ligaments, tubes, and ovaries, and posteriorly was bounded by the pelvic wall. The uterine appendages presented no marked lesion, and were not disturbed. The cavity was douched with hot boracic solution; a drainage-tube was inserted, and kept in for forty-eight hours.

The patient made a rapid recovery, the temperature never exceeding 100°.

Three weeks after the operation a vaginal examination was made. No swelling or other abnormal condition was detected. She went out next day, feeling quite well.

It seems to me very probable that this was a case of so-called tubal abortion. As no fœtal remains, however, were discovered, the origin of the hæmatocele must remain mere matter of conjecture.

This patient would no doubt have made a satisfactory recovery without operation. Had I diagnosed the case as one of hæmatocele, I should have certainly postponed operative interference, and tried the effect of prolonged rest. Having, however, opened the abdomen, it was obviously one's duty to remove the effused blood. This was all that was done, and the only result of the operation to the patient was that her recovery was hastened.

Case 24. *Pelvic peritonitis with constant vomiting, following a chronic purulent vaginal discharge; abdominal section; chronic interstitial inflammation of both tubes with adhesions matting together tubes and ovaries; both tubes and both ovaries removed; persistent vomiting during convalescence with alarming prostration; recovery;*

re-establishment of menstruation.—A muscular, healthy-looking girl aged 18, a lady cricketer by profession, applied for admission on March 24th, 1890, on account of severe pain in the left iliac region, which had commenced four weeks previously during a menstrual period. She was unmarried, but had been leading an irregular life since the age of sixteen. She stated that she had had a yellowish-white discharge from the vagina for two years, and that lately the discharge had become thicker and yellower. A week before admission she had a lump in the left groin.

On admission her temperature was 100·2°. The abdomen was somewhat distended, and its walls rigid. A bimanual examination revealed a tense, somewhat elongated swelling, the size of a small apple, in the left posterior quarter of the pelvis. High up behind the uterus was a small hard body, thought to be a displaced and adherent ovary. The uterus was normal in size and position.

A fortnight after admission vomiting set in, and for several days every meal was rejected. There was pain in the back and at the epigastrium. The swelling in the side of the pelvis had become more defined, and it could now be made out that the left tube was thickened and adherent, and embraced an ovary of the normal size. No swelling was detected on the right.

Abdominal section was performed on April 10th. The tube on each side was found thickened and adherent. The ovaries were healthy, but so completely involved in the adhesions that it was necessary to remove them along with the tubes. The right tube was the thicker of the two, being $\frac{1}{4}$ inch in diameter. The diameter of the left tube was equal to that of a large goose-quill. Neither tube contained pus. The mucous membrane was normal in appearance. The fimbriated extremity in both tubes was bent sharply on itself, the orifice in each case barely admitting an ordinary internal sound. There was some vomiting for the first two days. It then ceased for two days, but on April 14th it recommenced without

obvious cause, and continued day by day until the patient's condition became alarming. She lost flesh, and became dark and sunken about the eyes. On April 25th the climax was reached. The resident was summoned at seven in the morning. He found the patient very ill, with a dry coated tongue and a pulse of 130, and complaining of severe abdominal pain. A few hours later the pulse was 140, the voice had changed and become hollow, and the dark rings around the eyes were very marked. She complained of a sensation in the head as of "a raging storm." She had all the appearance of impending death. From that time, however, she gradually improved. The voice resumed its natural tone, and on the 29th April the vomiting finally ceased. On the 1st May her appetite returned, and on the 14th she was able to be sent to a convalescent home.

I did not see her again until the 25th July, 1891, when she presented herself at the out-patient room, having had continuous hæmorrhage for seven weeks. She was looking well and in good condition. She had had no pelvic pain since leaving the hospital. Two months after the operation she menstruated, and had menstruated regularly up to the commencement of the hæmorrhage for which she now sought advice. She had been employed as a waitress, and had been on her feet all day. She had had no flushings of the face, but had recently been subject to fainting. On examination the uterus was normal, and no swelling could be felt on either side of the pelvis. On March 5th, 1892, she was in excellent health, and was still menstruating regularly.

I was loth to operate on so young a patient, and did so only because I believed that there was suppuration in the pelvis, and that the vomiting and rise of temperature were due to septic absorption. I was surprised not to find pus. On another point the diagnosis was defective. I had only discovered the mischief on the left side, whereas that on the right was even more marked.

The vomiting, which assumed such a dangerous form

during convalescence, I am quite unable to account for, unless there was some independent affection of the stomach. The bowels acted well, and there was no albuminuria.

It is interesting to note the re-establishment of menstruation, notwithstanding the removal of the ovaries and tubes. The important point is that the pelvic pain has entirely disappeared, and that the health is completely restored.

CASE 25. *Severe attack of pelvic peritonitis, lasting four months; temporary improvement, followed by a recurrence of the inflammation, with general abdominal swelling and symptoms of septic absorption; occasional discharges of offensive pus from the bowel; ill-defined dulness and resistance on left side; abdominal section; two suppurating tubo-ovarian cysts, one on each side, that on the left situated in the abdomen, that on the right in the pelvis; rapid pulse for four days; pain and rise of temperature during second, third, and fourth weeks; recovery.*—The wife of a shopkeeper at Slough was admitted to St. Thomas's Home on May 17th, 1890, under my care. She was thirty-eight years of age, and had no children. She had a miscarriage six years ago, and has had more or less pain on the left side ever since.

In August, 1889, while on a visit to Margate, she got wet. The next day she became overheated whilst dancing, and the day following was out for some time on the water. Next morning she was taken very ill with severe pain in the lower part of the abdomen. Being no better after four or five days, a doctor was called in, and she was in bed and very ill for three or four months. Twice during this illness she had a discharge from the bowel of horribly offensive pus. At the end of the period named she was sufficiently better to get up and walk about. She returned home to Slough, but in a week or two became ill again. There had been hardness and resistance in the left iliac region whilst at Margate. Now there occurred general abdominal swelling, and patient became even more

sick than during her previous illness. She also had difficulty in micturition. In March, 1890, when her present medical attendant was first called in, her temperature averaged 100° in the morning and 103° in the evening. There was obstinate constipation and an irregular swelling in the abdomen, extending on the left side to the lower costal cartilages, fairly smooth and soft on the left side, lumpy about the umbilicus and dull all over on percussion. On bimanual examination the lumps could be moved *en masse* between the hands. High up behind the cervix was a uniform elastic swelling. On March 5th there occurred for the third time an offensive purulent discharge from the bowel. This gave great relief, and was followed by a fall of temperature. On March 10th the temperature became normal, and has remained so. A menstrual flow occurred in March, but not since.

On admission there was considerable swelling of the abdomen, with hardness and resistance on the left side, and a rounded prominence in the middle line. The cervix uteri was pushed upwards and forwards, the os uteri being above the upper margin of the symphysis pubis. The sound passed three inches; its point entered the rounded swelling in the middle line of the abdomen, and could be distinctly felt an inch below the umbilicus and a little to the right. A large, smooth, uniform, fluctuating swelling occupied and depressed the retro-uterine pouch. There was a distinct sulcus between the swelling and the posterior vaginal wall.

The patient was not in pain, but was extremely ill and helpless. The motions were still offensive, and the bowels did not act without assistance.

An enema was administered, and brought away large masses of hard lumpy fæces.

Abdominal section was performed on May 19th. The uterus was situated high up in the middle line immediately beneath the abdominal wall. It was enlarged, and presented on its peritoneal surface several sessile fibroids. Both Fallopian tubes were thickened and elongated, and

lay stretched over the surface of large thick-walled cystic swellings. That on the left side extended from below the posterior part of the brim of the pelvis upwards to the lower costal margins; it was adherent to the omentum, to the peritoneum lining the iliac fossa, to the posterior surface of the broad ligament, to the tumour on the opposite side, and to the back of the cervix uteri. Its wall gave way during removal, and about a pint of blood-stained pus escaped. The other cyst connected with the right tube, dipped deeply behind the uterus, filling the sacral cavity and right side of the pelvis. It was of a similar character to the one on the left side. During the separation of the extremely firm adhesions to the cervix uteri and right broad ligament the wall of the cyst gave way. The tumours were removed by transfixion, ligature, and division of their pedicles, consisting of the uterine end of the tube and the thickened broad ligament. A large thick mass of inflamed and adherent omentum was ligatured and removed. The operation lasted two hours; at the end of the first hour the patient became very livid, and remained so to the end.

The tumours proved to be suppurating ovarian cysts, with the Fallopian tubes opening into them. The opening on the left side was large enough to admit the little finger, that on the right was smaller. The left cyst in its empty and collapsed state measured four inches in diameter; the right measured six inches in its long diameter, five inches in its shorter. On the wall of the left cyst were several daughter-cysts.

The patient eventually made a good recovery. The pulse was rapid (over 130) for the first four days, though the temperature was normal. There was no sickness or abdominal distension. The bowels acted spontaneously on the fifth day, and more freely after an enema. During the second, third, and fourth weeks the temperature and pulse rose, and there were some dulness, pain, and resistance in both iliac fossæ, with slight purulent discharge from the lower angle of the wound. In the fifth

week the pain became much less and the temperature and pulse normal. There was still some purulent discharge when she left the home.

Six months after she went home her medical attendant wrote to me that the patient was walking about and attending in her husband's shop. There was still some purulent discharge from the sinus, generally very little, but sometimes a good deal. She had menstruated four times.

In February, 1891, she was stout and well. There was no swelling discoverable on pelvic examination. The sinus was still discharging, but very slightly. Menstruation still continued, sometimes every month, and sometimes at intervals of two months. Her only complaint was of backache after exertion. I saw her again in October, 1891; she was still looking well. The sinus was discharging very slightly indeed. She serves in her husband's shop twelve hours a day. Menstruation has only occurred once during the past eight months.

August 16th, 1892.—Sinus closed eight months ago. Slight tendency to hernia at lower end of scar. Menstruation irregular, sometimes every month, sometimes every three months. Complains of indigestion, otherwise quite well.

It may be objected that this case would have appeared more appropriately under the head of ovariotomy than in the present series. To this I would reply that when the patient first came under my observation there was no definite abdominal tumour to be made out, and that the data necessary for arriving at a detailed diagnosis were not available. The operation was undertaken, as a matter of fact, for the relief of recurrent peritonitis, believed to be due to pelvic suppuration.

Nothing short of bold surgical treatment could, in my opinion, have saved this patient's life. The operation, as may be imagined, was difficult and prolonged, and indeed dangerous; but what was the alternative? Either things must have been left to take their course, or one might

have been content with emptying and draining the suppurating cysts instead of removing them. In the former case death would almost have been inevitable; in the latter, even supposing recovery to have taken place, it would have been much more prolonged, and would almost certainly have been followed by a serious hernial protrusion at the abdominal wound.

Part II.—Cases 26 to 50.

Case 26. *Pelvic peritonitis with signs of tubal inflammation on both sides, and a small tense swelling on left side of pelvis pushing uterus to right of middle line; further development whilst under observation; abdominal section; both tubes thickened, adherent, and occluded; left ovary enlarged and cystic, one cyst suppurating; removal of right tube, and of left tube and left ovary; abscess at lower angle of wound on the eleventh day; recovery.*—The patient, a laundress, aged 25, married, was admitted May 5th, 1890, on account of pain in the left iliac region, hæmorrhage, loss of appetite, and general weakness. She had borne one child at full term in January, 1888, her recovery being on that occasion rapid and satisfactory. In April, 1889, she miscarried, at two months, of twins. Since then she has never felt well, but there were no definite symptoms until twelve months after, namely, three weeks before her admission. Menstruation had been regular. Her last period commenced on April 23rd, 1890; it lasted a week. A day or two later the flow recommenced and has continued up to her admission, the discharge latterly having been dark and clotted. There has been a good deal of pain in the left iliac region, and during the past few days there have been pain and difficulty in micturition, pain in the lower bowel, and constipation. There is no history of sickness or sudden pain. Patient has lost flesh; her appetite has failed, and she feels weak.

She is a light-complexioned woman, pale and anæmic.

Nothing abnormal is noticed in the appearance of the abdomen. On palpation a swelling is felt in the left iliac region, with a well-defined upper margin an inch above the level of the anterior superior spine. It extends a little beyond the middle line towards the right side. It is comparatively dull on percussion, and somewhat tender.

The uterus is fixed, slightly retroflexed and deflected to the right side, and of normal length. The left fornix is somewhat depressed by a tense, tender swelling in the left posterior quarter of the pelvis, extending from the uterus outwards to the lateral wall of the pelvis, and moveable to a very limited extent antero-posteriorly.

The temperature and pulse normal.

Urine free from albumen.

During the fortnight following admission the physical signs underwent several important changes. On May 10th there was observed a tongue-shaped, smooth, elastic swelling between the rectum and the upper part of the posterior vaginal wall, evidently due to effusion in Douglas's pouch. For several days patient suffered from vesical and rectal tenesmus, and frequently passed mucus like white of egg from the bowel. Otherwise she was feeling well and free from pain. The temperature ranged from normal to 101·2°. On May 15th the posterior swelling had become smaller and less tense; that on the left side remained as before. On the 18th both Fallopian tubes were felt thickened, their outer portions flexed and adherent behind their respective broad ligaments. The left tube lay in a plane somewhat anterior to that in which the right one was lying. The uterus was still a little to the right of the middle line, and the swelling on the left remained unaltered.

Abdominal section was proposed to the patient, but as her pain had greatly diminished she did not at first give consent. In a day or two, however, she expressed her willingness to undergo the operation.

On May 22nd an incision of three inches in length was made in the middle line of the abdomen. The uterus was found fixed to the right of the middle line, the upper part of the cervix being adherent posteriorly, obliterating Douglas's pouch. The right tube was flexed upon itself, and adherent behind the right border of the uterus. The ovary, normal, but universally adherent, was embraced by the tube. The left tube was found with difficulty. It was coiled upon itself and lay embedded in a cavity shut off by adhesions. The left ovary was enlarged to the size of a hen's egg, cystic and adherent throughout. It lay behind the left broad ligament. The left ovary and tube were separated first, the manipulations being difficult and prolonged. In bringing the parts to the surface two cysts gave way in the ovary, one containing blood-stained mucus, the other purulent fluid. The fimbriated end of the tube was occluded, the fimbriæ being indistinguishable. About 1½ inches of the outer end of the tube was removed with the diseased ovary. The inner portion of the tube—measuring about 3 inches in length—was left, the adhesions being so firm and deeply seated as to render removal nearer the uterus almost impracticable. The right tube was now with much difficulty separated from its adhesions. The whole tube, thickened to the size of the forefinger, was removed. Its fimbriated end was occluded, and around the closed end was a mass of hard yellow material like altered lymph. The ovary being of normal size, and being bound down by a firm peritoneal band, was left undisturbed. The abdominal cavity was douched and a drainage-tube inserted. The operation lasted an hour and a half.

The patient had no untoward symptom until the seventh day, when she did not feel well, and there was some circumscribed hardness and tenderness on the left side. On the eleventh day a large quantity of thick blood-stained pus escaped from the lower angle of the wound. After this the patient was much more comfortable, and

the hardness disappeared. A fortnight later she went home, the discharge having almost ceased. A stitch came away at the end of August, and the sinus then closed.

She presented herself, at my request, on September 26th, 1891, looking stout and well. She had had no pain, had menstruated regularly, and had been in perfect health ever since her discharge from the hospital.

October 22nd, 1892.—Continues well and strong, and free from pain. Menstruates regularly. Has a slight hernial protrusion in two or three places along the wound.

The portion of the left tube removed was much thickened. Its mucous membrane presented a number of minute transparent elevations (? tubercles), and in the tube wall there were several patches of softened and discoloured tissue of the size of a pea. Some flakes of lymph were found in the tube, but no pus. The right tube only contained some mucus.

This case is a typical example of a very numerous group, in which inflammation of both Fallopian tubes is associated with cystic degeneration of one or both ovaries, and in which the seat of the suppuration underlying the pelvic peritonitis is not tubal but ovarian. Very often, as in this case, only one comparatively small cyst is found in a state of suppuration, the remaining cysts containing fluid of the character usual in cystic adenoma of the ovary. Sometimes the contents of several of the cysts have become purulent. This suppuration is probably owing to the invasion of the ovary by infective micro-organisms from the neighbouring tube.

These cases seem to me to have an important bearing on the etiology of suppurating tubo-ovarian cysts, as showing that ulceration of the walls of an ovarian cyst leading to a communication between tube and ovary may commence from within as well as from without,—that is to say, may originate from suppuration within the ovary as well as from suppuration in the tube. I shall have something more to say on this subject later on.

CASE 27. *Acute pelvic inflammation following exposure to rain and cold six weeks after confinement; recovery, followed by fourteen months of apparently good health; re-admission for persistent hæmorrhage; signs of chronic pelvic peritonitis, with thickening, displacement, and fixation of both tubes; removal of both tubes and both ovaries by abdominal section; loose pus-cells discovered by the microscope in the lumen of the tube, but no purulent collection visible to the unaided eye; abdominal ostia of tubes much contracted and adherent; recovery.*—A young widow, aged 23, was first admitted into Adelaide Ward in December, 1888, nine weeks after her first confinement. She had been an inmate of the surgical wards on account of breast abscess, and, happening to be discharged on a wet day, got her clothing wet through on her way home. During the night she was attacked with severe pain in the lower part of the abdomen, shooting down the thighs. The pain continued up to the time of her admission, three weeks later. On admission a hard ridge of inflammatory exudation was felt between bladder and cervix (anterior parametritis). A few days afterwards the hardness, diminishing in front, had extended to the left broad ligament, which could be felt as a hard flattened mass, moveable within certain narrow limits independently of the uterus. On January 4th the cellulitic exudation had subsided sufficiently to permit the mapping out of the Fallopian tubes, which could be felt as firm cords running outwards, one on each side, from the body of the acutely anteflexed uterus along the free border of the broad ligament. The patient rapidly improved, and left the hospital free from pain and with a normal temperature on January 19th, 1889.

After leaving the hospital she remained well and able to do her work for fourteen months. At the beginning of April, 1890, after having had a yellow vaginal discharge for a fortnight, she had to leave her work on account of persistent hæmorrhage.

On May 17th, 1890, she was readmitted to Adelaide

Ward, the hæmorrhage having then lasted for five weeks. On the 23rd she was examined under an anæsthetic. The uterus was in normal position. There was a hard irregular swelling in both posterior quarters of the pelvis, more marked on the right, where the tube could be made out distinctly as a thick cord bent backwards upon itself, and dipping down behind the uterus. On the same side there was also a softer and more circumscribed swelling, thought to be the prolapsed ovary. There was much tenderness in the situation of Douglas's pouch. Four days later there was a tense fluctuating swelling in Douglas's pouch. This gradually subsided, leaving an irregular hardness, distinctly nodulated, and the thickened and adherent right tube could again be clearly defined.

On June 6th an incision three and a half inches long was made in the middle line. On passing the fingers into the pelvis a quantity of serum escaped. Tracing the right tube from the cornu of the uterus it was found thickened, bent on itself, and adherent behind the broad ligament and the uterus, enclosing within its fold the ovary, which was enlarged to the size of a pigeon's egg, and contained several cysts, one of which was filled with pus. The tube and ovary were separated and removed. The left tube and ovary were universally adherent, though apparently themselves unaltered. These were also separated and removed. There were still some thickened irregular masses at the bottom of the retro-uterine pouch, but as it seemed certain these were only portions of thickened omentum they were not disturbed. The abdomen was irrigated with hot solution of boracic acid, and then cleansed by sponging. A drainage-tube was inserted and the wound closed. The operation lasted an hour and twenty-five minutes.

On examination of the parts removed, the right tube was found thickened to a diameter of half an inch, the wall, on section, measuring from three sixteenths to a quarter of an inch in thickness. The external surface was covered with vascular shreds of adherent peritoneum.

The mucous membrane was swollen and œdematous. The opening at the fimbriated end was contracted to the size of a mere pin-hole; the fimbriæ were thrown back and adherent. No fluid was visible in the canal. A section of the tube was examined under the microscope by Mr. Shattock, who reported small-celled infiltration, with a few loose pus-cells in the lumen of the tube. The left tube was thickened to the size of a goose-quill, denser and firmer than normal. The mucous membrane of the outermost inch was livid, swollen, and soft; the rest was normal. The fimbriated end was narrowed, but still pervious. Portions of both ovaries had been left in the pedicle on the distal side of the ligature.

The patient had a slight rise of temperature on the evening of the fifteenth day, with some abdominal pain, followed by swelling and tenderness behind and to the right of the uterus. These symptoms subsided in a few days, and on July 10th she was sent to a convalescent home feeling very well.

On April 2nd, 1891, I met the patient looking stout and well. Her complexion, which had been pale and sallow, had assumed a healthy colour. She was free from pain. There had been amenorrhœa for four or five months after the operation, since which time she had menstruated regularly.

January 7th, 1893.—Well and strong, and free from pain except at the menstrual periods, which are quite regular, but for the last six months have been painful. Married a second time two years ago. Vaginal examination reveals nothing to account for the dysmenorrhœa.

This was a case in which prolonged rest would in all probability have resulted in cure. The patient, however, being a widow, and dependent on her own exertions for a livelihood, naturally preferred a shorter and more certain method of treatment, fully appreciating and accepting the physiological consequences. I was surprised not to find a larger collection of pus in the tubes. The microscope, however, proved that it was there, though in small quan-

tity. The re-establishment of menstruation was probably due to a portion of the ovary having been unavoidably left in the pedicle, the ligature below the portion so left not having completely destroyed its functions.

CASE 28. *Recurrent pelvic peritonitis; constant pain in back and lower part of abdomen; uterus elevated and displaced forwards; large tense swelling on left, hard irregular mass on right; abdominal section; purulent salpingitis on right side with suppurating intra-peritoneal hæmatocele; inflamed and adherent intestine in left posterior quarter of pelvis; left tube and ovary not found; recovery.*—A married woman, aged 34, residing at Streatham, was admitted June 23rd, 1890, complaining of constant pain in the lower part of the abdomen and in the back.

She was married at twenty-one, and had had four children, the last one five years ago. Two days after the birth of her first child she had an attack of inflammation, but she was able to be up on the tenth day, and had no further trouble. About two years ago she had another attack of internal inflammation, supposed to be due to a chill during menstruation. She was poulticed and syringed, and recovered in a few days. She was well up to three weeks ago, when she was seized, a fortnight after a period, with aching pains in her limbs; these disappeared, leaving, however, a constant pain in the lower part of the abdomen, especially on the right side, and in the back. No swelling had been noticed.

On admission she had the appearance of a pale but otherwise healthy woman. The thoracic viscera were normal, the urine healthy. The abdomen was somewhat distended. Resonance was somewhat impaired over the lower half of the hypogastric region.

On examination under ether, June 24th, the fundus uteri was found elevated to three quarters of an inch below the umbilicus. The mobility of the uterus was impaired, its cavity not enlarged. In the left iliac

region was a tense cystic swelling the size of a large orange, moving with the uterus and evidently connected with it by adhesions or otherwise. It extended to within three quarters of an inch of the umbilicus. Fluctuation was distinctly made out bimanually. On the right side, high up by the side of the uterus and adherent to it, was a hard, irregular swelling of the size of a Tangerine orange, giving the impression of tube and ovary involved in a mass of adhesions.

A few days later the mass on the right side had become less distinct; that on the left remained the same.

The temperature on admission was 100·4°; afterwards it varied from normal to 99·6°.

Abdominal section was performed July 3rd. The omentum roofed in the contents of the pelvis, which were densely matted together and difficult to distinguish. The omentum having been separated and pushed aside, the enlarged and thickened right Fallopian tube was found deeply situated at the back of the pelvis and adherent on all sides. The adjoining ovary was likewise embedded in adhesions, but in other respects it was normal. Both were separated and removed. During the separation there escaped from amongst the adhesions a quantity of grumous fluid, consisting of altered blood mixed with pus. The left side was now explored. At length a thick-walled tube was discovered dipping down into the left posterior quarter of the pelvis and firmly adherent. This was separated and brought into view, when it was recognised by the appendices epiploicæ to be a coil of large intestine, inflamed, thickened, prolapsed, and adherent. The search for the left Fallopian tube was thereupon resumed, but neither it nor the left ovary were discovered. The pelvis was irrigated with hot boracic acid solution, a glass drainage-tube inserted, and the abdomen closed.

The portion of the right tube removed was three inches in length. The fimbriated end was open, and had a diameter of one third of an inch. The tube was thickened

and inflamed. On section it was found to contain a few drops of pus. Its external surface presented a thickened, indurated, ragged patch, of dark colour, three quarters of an inch in length, which gave the impression of having formed part of the wall of an intra-peritoneal abscess. About two thirds of the normal ovary had been removed with the tube.

The patient had more pain than is usual during the first few days, but made a good recovery. The bowels were opened by enema on the fifth day. The temperature on the second day rose to 100·4°; after that it never reached 100°.

On vaginal examination, July 18th, a mass was felt on the left side depressing the vaginal roof; nothing abnormal on right side or behind the uterus. The patient was up the following day, and left the hospital well a month after the operation.

Two or three points in this case call for remark. In the first place, the association of salpingitis with an intra-peritoneal hæmatocele, an association observed in several other cases in this series, seems to point to a causal connection between the two conditions. Where, as in this instance, the salpingitis is purulent, the fimbriated end remaining patent, the hæmatocele almost inevitably undergoes suppuration, forming one variety of pelvic abscess. Another feature in the case worth noting is the difficulty that arose from an inflamed, prolapsed, and adherent coil of intestine simulating an inflamed Fallopian tube. It is next to impossible sometimes to distinguish, by touch alone, the one from the other, and even when sufficiently separated to be brought into view it is not always easy at first sight to say with certainty whether it is inflamed bowel or inflamed tube that lies before one. It is only by carefully tracing the tube to its uterine end, or, in the case of intestine, by noting appendices epiploicæ upon it, or by tracing it beyond the inflamed portion and finding it continuous with healthy bowel, that the diagnosis can be established. One of the chief risks of the

operation for the removal of diseased tubes consists in this liability to mistake intestine for Fallopian tube. There can be no doubt that the smooth, tense swelling which was felt before the operation on the left side of the pelvis, and which was still perceptible a fortnight after the operation, was inflamed intestine, prolapsed and adherent. Now that all the pus has been removed the inflammation of the prolapsed bowel will gradually subside. If an opportunity should occur of examining the patient again I shall expect, therefore, to find the swelling much smaller in size and softer in consistence.

CASE 29. *Recurrent pelvic peritonitis following an attack of general peritonitis seven years ago at the age of twenty; attacks more frequent during last two years; dragging pain in right iliac region after the least exertion, necessitating the life of a chronic invalid; uterus fixed; hard irregular mass in each posterior quarter of pelvis, more marked on right; abdominal section; contents of pelvis densely matted; right tube distended by a mass of soft tuberculous material, its walls softened and marked by scars of old ulcers; left tube enlarged, thickened, and empty; mucous membrane granular; mass of soft tuberculous matter in left side of pelvis; lengthy operation, severe shock; slow convalescence; copious escape of pus from rectum seven weeks after operation; recovery.*—A single lady, aged 27, had for seven years been subject to attacks of localised peritonitis in the pelvis, chiefly on the right side, following an attack of general peritonitis at the age of twenty, when she was confined to bed for six weeks. The localised attacks had been more frequent during the past two years. They usually occurred in connection with a menstrual period, and were always ushered in with acute pain and were attended with fever. During the whole time there had been dragging pain in the right iliac region after the least exertion. About two years ago there was a swelling in the right iliac region, which afterwards disappeared. For the last five or six

weeks she had been much in bed; before that she had been in the habit of rising at ten and retiring to bed at nine. She had lost a stone in weight during the last two years, but retained a good colour, and ate and slept well.

Her mother and a maternal uncle had died of phthisis.

The patient herself had always been delicate. At the age of fourteen she had an illness, said to be due to some disease of the liver; this illness was followed by hysteria. She had had two attacks of pleurisy. The first menstruation occurred at the age of twenty (after the attack of general peritonitis above alluded to); since then she had menstruated regularly.

There was no unusual appearance about the abdomen. Vaginal examination, rendered difficult by the virginal condition of the orifice, showed fixation of the uterus with a hard irregular mass in the right posterior quarter of the pelvis, and a similar but less defined mass in the left posterior quarter. The vaginal roof was not depressed.

It being evident that there was chronic disease of the uterine appendages of both sides, with much matting of the parts, and probably with suppuration, abdominal section was suggested and agreed to.

The operation was performed July 10th, 1890. There were such extensive adhesions of intestine and omentum to the abdominal wall and to the anterior surface of the pelvic viscera that a long time was occupied in obtaining access to the pelvis. The contents of the pelvis were densely matted together. The right side was first dealt with. During the separation of the densely adherent tube and ovary on that side, the finger passed into a mass of caseous material, which proved to be in the interior of the Fallopian tube. The wall of the tube at this part was so soft that it gave way in its entire circumference, separating the tube into two distinct portions, an outer dilated portion and an inner portion. The outer portion was carefully separated from its deeply seated adhesions and removed. The torn end presented the appearance of an old abscess-cavity, filled with caseous material. The

fimbriated end was closed. The ovary, normal in size and entirely embedded in adhesions, was then shelled out and brought into view. The broad ligament was then transfixed beneath the ovary, and the ovary and uterine end of the torn tube were ligatured and removed. On the left side the condition of the parts was extremely puzzling, so much so that I was sorely tempted to abandon the attempt to deal with it. Eventually, however, the ovary was discovered embedded in adhesions, and then the greatly elongated and thickened Fallopian tube. In separating the latter another collection of caseous material was entered by the finger. This mass was outside the tube, in a cavity formed by peritoneal adhesions. On separating the densely adherent fimbriated end of the tube there was a smart hæmorrhage. After a careful examination of the tube, to make sure it was not an inflamed coil of intestine, which it much resembled, the greatly thickened broad ligament was transfixed in the usual manner, and the tube and ovary were removed. The pelvic cavity was then douched with hot water, and afterwards well sponged. A glass drainage-tube was inserted and the abdominal wound closed. The operation lasted nearly three hours. At its close the patient was very cold, and was suffering severely from shock. Half an hour afterwards a subcutaneous injection of ¼ gr. of morphia was administered. The patient slept a little, and the surface gradually became warmer. At 10.30 p.m. the dressings were changed and the urine drawn off by catheter. The slight movement involved in the re-adjustment of the binder induced vomiting. The pulse was very rapid and feeble. During the night and up to 6.30 on the following day there was occasional vomiting. At 6 p.m. morphia was given subcutaneously, after which she slept for two hours. At 10.30 p.m. the condition had decidedly improved; the pulse was stronger and less frequent (128); the patient was in good spirits and begged for nourishment. On the morning of the third day she was bright and talkative, and interested in her

future. An india-rubber tube was substituted for the glass one. At noon, urine was passed naturally, and at 3 p.m. flatus escaped *per anum*.

The india-rubber tube was only kept in for twenty-four hours. The bowels acted slightly on the fifth day and copiously on the seventh. The stitches were removed on the eighth day. On August 6th, a month after the operation, the patient left for Eastbourne. Her temperature had never reached 100° up to that time, nor had she complained of any pain or discomfort. Ten days after her arrival at Eastbourne she had a rigor with slight rise of temperature, and some local tenderness in the left iliac region. A fortnight later (September 2nd) a little pus was observed in the stools, and next day 10 or 12 fl. oz. of pus passed *per rectum*. On September 19th the temperature still remained high, and more or less pus continued to be passed from the bowel every day. On October 15th the patient was eating well and was very comfortable, but the temperature, normal in the morning, rose every evening to 101°, and night-sweats were reported to be constant. On October 19th Mr. Ewart, of Eastbourne, made a vaginal examination. The uterus was retroverted and fixed. There was hardness low down in the recto-vaginal septum and all round the rectum.

After this she slowly improved, and in January, 1891, she was able to drive about in a sledge, and had lost almost all the aching pain in the pelvis which she used to suffer after walking.

I saw her at my rooms on September 28th, 1891—fourteen months after the operation. She was then looking well and cheerful, but she had not yet reached her normal weight. She could walk a mile without discomfort. There was a little purulent discharge from the rectum almost every day. Occasionally there was a darker discharge with pain and rise of temperature; for example, a fortnight before the interview the temperature, for four or five days, was 100° to 102°, being usually

normal or subnormal. The catamenia have not been re-established, and the frequent flushings of the face seem to indicate that menstruation has ceased. She is free from pain except under the occasional circumstances above noted.

In July, 1892, two years after the operation, she wrote to tell me that the discharge only appeared about once or twice in six weeks, and was then very slight. On November 17th, 1892, I saw her. She was looking and feeling very well, and had had no pain since the spring. She was leading a busy and active life, and thoroughly enjoying it. The discharge from the bowel ceased from June to September. Since then there had been a very little discharge on three occasions.

Further note on the condition of the parts removed.—Both ovaries normal. Right tube dilated, two inches in length; internal surface irregularly puckered, showing evidence of old cicatrices; rugæ obliterated; contents a yellow, putty-like substance; a portion of fimbriated end torn off and found adherent to the ovary; proximal end ragged, irregular, and softened, this condition extending to all the coats. Left tube enlarged, thickened, elongated, and occluded at its outer end. Lumen empty. Mucous membrane thickened and congested; surface granular, not ulcerated. A section submitted to microscopical examination showed no evidence of tubercle.

Although this patient was in a rank of life that enabled her to have every comfort and to take an unlimited amount of rest, the increasing frequency and severity of the recurrent attacks of local peritonitis seemed to point to the desirability of operative interference, an interference justified by the result. The tubercular disease, though local and inactive, was a continual source of irritation, and, even if it had not eventually produced general infection, would almost certainly have condemned the patient to a life of chronic invalidism for a long time to come. The formation of a pelvic abscess nearly six weeks after the operation was wholly unexpected, and

proved a serious hindrance to recovery. It was well that the abscess discharged itself quickly by the bowel, or the consequences might have been still more serious. Considering the serious nature of the operation I do not think the patient's present condition can be regarded as otherwise than highly satisfactory. Her discomforts are slight, and she is able to move about and enjoy life to an extent that she had not been able to do for several years.

CASE 30. *Severe pain in left iliac region, back, and left thigh of four days' duration, with history of a similar attack three months previously after a fall; disappearance of pain twenty-four hours after admission; dense, irregular mass in each posterior quarter of pelvis; swollen and tortuous tube traceable from uterus on each side into the swelling; abdominal section; both tubes irregularly dilated, occluded, and full of pus; walls thickened and deeply ulcerated; no microscopic or other evidence of tubercle; uninterrupted recovery; patient well and strong when seen fifteen months afterwards.*—A young married woman, aged 24, the mother of three children, was admitted July 12th, 1890, on account of severe pain in the back and in the left iliac region, extending down the thighs and causing difficulty in walking. The symptoms had come on suddenly four days previously. She had once before had similar pain, viz. after a fall on the left side during a menstrual period three months ago.

There was no history of phthisis in the family. Her labours had all been easy, and recoveries rapid and satisfactory. Her youngest child was born fourteen months ago. She had had a yellow vaginal discharge for some years; it commenced, in fact, before she was married, and has never caused her inconvenience.

She was thin and anæmic, but very cheerful. The urine was clear and contained no albumen. Her temperature varied from 98·8° to 102·2°.

On vaginal examination the posterior fornix was found

depressed, and there was increased resistance in both lateral fornices. From the sides of the uterus a dense mass could be felt passing out towards the lateral walls of the pelvis, more marked on the right side. A portion of the swelling on each side can be felt as a tortuous and thickened tube traceable into the posterior fornix.

The patient had no pain after being in the hospital twenty-four hours, but as it appeared certain the case was one of chronic purulent salpingitis, abdominal section was proposed. The patient assented, and the operation took place July 21st, 1890.

The right uterine appendages were densely adherent in the right posterior quarter of the pelvis. During their separation some thick yellow pus escaped from a very small opening in the tube-wall at a point near the distal end, where the tube was distended and its wall thin. The broad ligament, thickened by cellulitis, having been transfixed and ligatured below the ovary, and a second ligature having been placed around the tube to prevent escape of its purulent contents after its division, the tube and ovary were removed. The left tube was now examined and found in a similar condition; it was accordingly separated, and, with its adjacent ovary, ligatured and removed. The abdominal cavity was well flushed with hot boracic solution, and a glass drainage-tube inserted before closing the abdomen. The pouch of Douglas being partially obliterated by adhesions, an unusually short tube ($3\frac{5}{8}$ inches long) was used.

The patient's temperature rose on the evening of the second day to 101·4°, and on the evening of the third day to 100·6°. After that it never reached 100°, and from the eighteenth day was normal. She left the hospital on August 12th, free from pain and well. In response to my request she came to see me at the hospital on the 6th November, 1891, nearly sixteen months after the operation; she looked so stout and well as to be scarcely recognisable. She assured me she had been entirely free from pain from the time she left the hos-

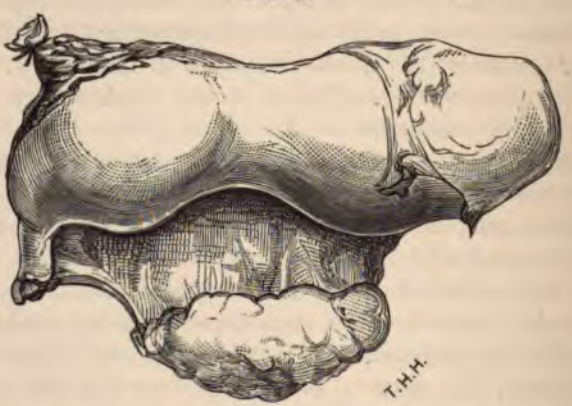
pital, and, in fact, had become quite stout, and was enjoying better health than she had done for several years. She has a menstrual period of normal character about every two months. There had been no symptoms of an approaching menopause.

Description of the parts removed.—Right tube, 3½ inches long, enlarged and thickened, fimbriated end closed, dilated in two places, viz. at the free end, where the diameter is 1¼ inches, and at a distance of half an inch from the uterine end, where the diameter is rather less. The larger of these dilatations is dusky red in colour and congested; the smaller has so thin a wall that the yellow colour of the pus within shows through it distinctly. The peritoneal covering of the tube is much thickened and covered with shreds of tissue, the remains of adhesions. In one or two places the adherent surfaces shows a parchment induration. At the upper and posterior border there is a portion of adherent omentum, ligatured and divided during the operation. On the anterior surface of the dilated end there are two small perforations, the peritoneum surrounding these being black. The walls of the tube are ¼ inch thick. No tubercles are visible. The mucous membrane is much swollen and ulcerated in irregular patches, especially in the dilated portions, which contains creamy pus mixed with mucus, and without odour. The floors of the ulcers are pitted and shaggy, with flakes of breaking-down tissue hanging from them. The perforation at the distal end communicates with the abscess-cavity.

The left tube is more convoluted than the right. It is irregularly dilated, the main dilatations being three in number, the largest of which is at the distal end, the smallest near the uterine. The peritoneal covering is thick, and shreddy from torn adhesions; beneath it is a small serous cyst. The wall of the tube is so thin at the dilated portions that the yellow colour of the pus inside is clearly shown in striking contrast to the dusky red colour of the rest of the tube. The mucous

FIG. 1.

FIG. 2.



Double pyosalpinx; natural size. The drawing shows the irregular dilatations of the tubes. The ovaries are normal. (Case 30.)

membrane is generally thickened; each dilated portion is separate from the rest, and contains creamy pus without odour. The wall of the tube has, in the case of the smallest of the three abscesses, been destroyed by ulceration to such an extent that only the peritoneal coat remains. The characters of the ulcers are the same as in the right tube.

The ovaries are normal in size and appearance; they are full and pulpy, and contain a few small cysts. In the left is a recent corpus luteum.

A noticeable feature in this case was the short duration of acute symptoms, there having been but two attacks of pain, each lasting only a few days, and separated from each other by an interval of three months. Yet the condition of the tubes showed that the disease was of long standing, and that their removal was only effected just in time to avoid rupture, with escape of the purulent contents into the peritoneal cavity. The ulceration had extended down to the peritoneal coat, which itself was on the point of rupture in at least two places. This case is a sufficient answer to those who advocate a preliminary trial of palliative measures in all cases indiscriminately. A delay of even a few days would have exposed this patient to a very serious risk.

The nature of the infection seems doubtful. There is nothing in the history that points definitely either to septic or gonorrhœal infection. I suspected from the nature of the ulceration, that the disease would prove to be tubercular, but my friend Dr. W. S. A. Griffith, who very kindly removed a portion from the middle of one tube for examination under the microscope, assured me that he could discover no evidence of tubercle, although he examined several sections. The case must, then, for the present remain unclassified.

The result of the operation was, and continues to be, all that one could desire.

Case 31. *Pelvic hæmatocele simulating cystic tumour;*

operation averted by the unexpected diminution in the size of the swelling; rapid disappearance of the tumour; exploratory abdominal section four months later, on account of persistent disablement and pelvic pain; remains of hæmatocele found, and matting of contents of pelvis; no appreciable lesion of the uterine appendages; right ovary separated and removed; right tube separated, but not removed; left appendages undisturbed; recovery; two years afterwards in excellent health and free from pain.—A married woman, aged 23, was sent from Scarborough on the 1st February, 1890, to be operated upon for an ovarian tumour. There was a fluctuating swelling in the abdomen, centrally situated, reaching upwards to the level of the umbilicus, and dipping down into the pelvis, causing in the latter situation a large bulging tumour behind the upper part of the vagina. The uterus was pushed upwards, forwards, and to the left. Menstruation had been regular. The swelling had been first noticed four months previously, being then, according to the patient's account, the size of a walnut. Three weeks before admission, at the commencement of a menstrual period, patient was seized with severe pain, which continued for the three days of the period; since that time the abdomen had been much larger than it was before. The patient had been married three years, but had not become pregnant.

I saw no reason to doubt the diagnosis of the medical attendant, except that I regarded the tumour as being a broad ligament cyst rather than an ovarian. It happened that there were several more urgent cases needing operation just at that time, and that some delay occurred in consequence. On the 17th of February, a little more than a fortnight after admission, the abdomen was observed to be decidedly less prominent and the tumour less tense. Fresh measurements were thereupon taken, and it was found that they had diminished in all directions. The upper limit of dulness, which had been 6½ inches above the pubes, was now only 4. The distance between the pubes

and the umbilicus had become reduced from 8 inches to 6½ inches, and that between the umbilicus and the anterior superior spine of each ilium from 6 inches to a little over 5 inches. The swelling, felt *per vaginam*, was also smaller and less tense, and the cervix uteri was no longer squeezed against the left pubic ramus. In short, it was evident that the swelling was a hæmatocele, and that it was disappearing. The process of absorption went on, as it usually does when it once begins, with amazing rapidity. On February 25th no tumour could be felt on abdominal examination. High up behind the cervix uteri, which was now in its normal position, could be felt bimanually a flaccid, circumscribed collection of fluid, causing little or no depression of the vaginal roof. On the 8th March the swelling was still diminishing. On the 18th it conveyed an impression very much like that given by a distended tube, and on the 25th this character was still more marked. The patient returned to Scarborough on the 28th, and was desired to present herself for examination in three months.

She came up to London again at the end of July, and was readmitted to the hospital on the 2nd of August, 1890. She had not been able to do much work during the four months she had been at home, on account of weakness and backache. Occasionally she had had pain in the left iliac region, and most of her time had been spent on the couch. She was anxious that something should be done for her if possible. There was a hard irregular swelling in the left posterior quarter of the pelvis. An exploratory incision having been determined upon, the operation was performed on August 4th. Both tubes and both ovaries were universally adherent in the posterior part of the pelvis. The tubes were not dilated or appreciably thickened. The right tube was separated as far as possible; as it appeared healthy, it was not removed. The right ovary was also shelled out from its adhesions. Its external surface was so thickened and ragged that it was thought wise to remove it. The

adhesions on the left side were extremely dense, and as there did not appear to be any disease of the appendages on that side, they were not disturbed. There was a large cavity behind the uterus, with ragged walls. In this cavity were several fragments of old blood-clot. A glass drainage-tube was inserted and the abdomen closed.

The patient recovered satisfactorily, and left the hospital on August 23rd. Her general condition was improved, and she was free from pain. The uterus was fairly moveable. Some hard, irregular thickening could be felt above the left vaginal fornix, none above the right. There was slight tenderness in the situation of Douglas's pouch.

I wrote to her medical attendant at Scarborough for news of her in October, 1891. His reply, dated October 12th, stated that he had called on the patient that day. She looked very well, and expressed herself as being better than for years past. She was able to do her work, had no pain or bearing down or backache. Menstruation was regular, and, though rather scanty, was painless.

July 15th, 1892.—Presented herself at the hospital in excellent health. Has no pain, menstruates regularly, and is able to do all her housework and attend to a small business as well. On examination no swelling on right side of pelvis; left appendages adherent, otherwise normal.

This patient had lost a brother from consumption at the age of twelve. She herself had had her knee excised by Mr. Croft when she was ten years old, and, shortly after leaving the hospital on that occasion, had an attack of inflammation of the bowels. It seems not unlikely that her sterility was due to damage done to the uterine appendages by that attack. As to the cause of the hæmatocele, which I so nearly operated upon under the impression that it was a cystic tumour, the subsequent abdominal section shed no light. I think it not improbable, however, that it originated in rupture of an early extra-uterine gestation sac, or perhaps in a so-called tubal abortion. The operation was simply exploratory in its

intention. I thought the persistent pain and disablement might be due to a hæmatosalpinx or some other disease of the appendages. Nothing of the kind was detected, and the patient would no doubt have recovered just as well without any operation.

The next case is one of erroneous diagnosis. I opened the abdomen expecting to find an inflamed and adherent tube and an adherent ovary lying beneath the body of a retroflexed and adherent uterus, instead of which I found no adhesions at all—nothing, in fact, but a normal ovary prolapsed beneath a retroflexed uterus.

CASE 32. *Continuous pelvic pain and dysmenorrhœa; irreducible retroflexion of uterus, with prolapsed ovary beneath it in Douglas's pouch; hard swelling, thought to be the inflamed and adherent tube, immediately above the ovary; abdominal section; retroflexed uterus; body incarcerated in hollow of sacrum from fibroid enlargement; tube and ovary normal, the latter prolapsed; no adhesions; reduction of the displacement; recovery, with complete relief of symptoms.*—A woman, aged 40, applied at the out-patient room on account of constant pain in the pelvis and dysmenorrhœa of six months' standing. She had been married since the age of eighteen, had borne one child a year after marriage, and had not been pregnant since. On vaginal examination the uterus was found retroflexed and fixed. Beneath the retroflexed body, at the bottom of Douglas's pouch, was a small soft body, thought to be the prolapsed and adherent ovary, and between the two a hard, fixed, irregular swelling, thought to be the inflamed and adherent tube. The patient was advised to come up for operation if the pain and disablement continued.

A few weeks later she begged to be admitted. She was taken into the hospital on August 4th, 1890, and the abdomen was opened the following day by an incision 2½ inches long. The retroflexed body of the uterus was found tightly incarcerated beneath the sacral promontory. On lifting it up it was seen to be enlarged and distorted

by fibroids. Deep down in Douglas's pouch lay the prolapsed right ovary. Both it and the tube were perfectly normal. There were no adhesions of any kind. The ovary having also been lifted up into its proper position, a Hodge's pessary was introduced *per vaginam*, to prevent a recurrence of the uterine displacement. Until this was done the uterus showed a tendency to fall back the moment it was left unsupported. After the introduction of the Hodge it remained in its normal position. The abdominal wound was then closed. No ill effects followed the operation, and the patient went home on August 29th with the uterus in its normal position, and still wearing the pessary. She lost all her uncomfortable symptoms from that time. The pessary continued to be worn until April 18th, 1891, when it was finally removed. The uterus had remained in its normal position the whole time (nearly nine months), and the patient's health had been excellent.

I have included this case because, although the uterine appendages proved to be healthy and non-adherent, they were thought to be diseased, and the object of the operation was to remove them. The hard, fixed swelling above the prolapsed ovary, thought to be the inflamed tube, was one of several fibroids projecting from the body of the uterus. The operation furnished the only opportunity that has ever occurred to me of observing the effect of a Hodge's pessary from inside the pelvis. It raised the vaginal roof with its peritoneal covering into a distinct fold, and so far confirmed the theory that it acts by elongating the posterior cul-de-sac, thereby drawing the cervix upwards and backwards into its normal position.

Case 33. *Small cystic ovary known for several years to be prolapsed in Douglas's pouch; gradual development in size with slight pain; sudden attack of intense pelvic peritonitis with formation of an abdominal swelling continuous with that in pelvis; subsidence and subsequent recurrence of acute symptoms; abdominal section; matting*

of pelvic viscera; suppurating cyst of left ovary with fœtid contents, communicating by a direct opening with inflamed left tube; right tube inflamed and adherent; diseased parts removed; death on fifth day.—A married lady aged 31, who had formerly been under my care at Manchester, was sent up to me for operation on August 30th, 1890, under the following circumstances.

She had been married eleven years, and had never been pregnant. She first consulted me in February, 1887, having then been under medical treatment for twelve months on account of dyspareunia. At that time the only thing discovered on examination was a small, tender, cystic tumour in Douglas's pouch, which I thought was the left ovary enlarged and adherent. The uterus, normal in size, was displaced a little to the right and freely moveable. There were frequent attacks of neuralgia of the head and face; otherwise the general health was good. A year later the left (prolapsed) ovary was still very tender; the right ovary, now felt for the first time, was also tender and slightly enlarged. On December 29th, 1889, the patient came up to London to consult me. The condition then was as follows:—Left side of pelvis occupied by a tender irregular mass, partly cystic, pushing uterus over to right. Uterus normal in length and moveable. The question of operation was discussed, and it was arranged that she should see me a little later, when she had quite recovered from a recent attack of bronchitis. On August 1st, 1890, I heard that she was very ill. She had menstruated normally from July 7th to 15th, and a week afterwards had been sitting reading out of doors, and feeling perfectly well, when, on rising to go home, she found that every time she put her foot to the ground an extremely severe pain struck up into the lower part of the abdomen. She reached home with difficulty. Soon after arriving at her house she had a severe rigor with chattering of the teeth. Dr. Donald saw her the same evening, and diagnosed pelvic peritonitis. He found the left ovary enlarged and the left appendages generally

matted. She improved rapidly, and in three or four days her pulse and temperature were normal, and she had no pain. On July 31st she had permission to get up, but was unable to do so on account of a return of the pain. The following day Dr. Donald discovered a large soft swelling in the left broad ligament pushing the uterus to the right. The only symptoms were backache and flatulence. The swelling was thought to be a hæmatocele. During the month of August the patient made little progress. The pulse was uniformly rapid, the temperature normal in the morning and between 100° and 101° in the evening. On the 30th August she came to London with a view to operation. Although she had been five weeks in bed she was able to walk with an ease that surprised her. She had no pain. There was a fluctuating swelling causing some prominence above the pubes, centrally situated, dull on percussion, measuring 4¼ inches transversely and reaching to within 2¼ inches of the umbilicus. Bimanually the swelling was felt to occupy the left side of the pelvis; the uterus was fixed, and lay in front and to the right.

Abdominal section was performed on September 1st. The omentum covered the pelvic viscera completely. After separating it and turning it aside, the pelvis was found to be occupied by a large mass of matted viscera, consisting of uterus, both Fallopian tubes greatly thickened and enlarged, and on the left a large thick-walled cyst. The right tube and ovary were traced out first and separated from their adhesions. The ovary was slightly larger than normal, of firm consistence, and universally adherent. The tube was thickened, dilated, and completely occluded at its distal extremity. It measured 4 inches in length, and was coiled round and adherent posteriorly. During the separation a quantity of foul-smelling pus welled up, which was afterwards found to have escaped from a rent in the cyst of the left ovary, to which the right tube had been adherent. The right tube and ovary were ligatured and removed. The broad ligament was much

thickened from chronic inflammation, but was not friable. The parts on the left side were then dealt with. The tube was much thickened and elongated, and stretched out over the cystic tumour. The fimbriated end was dug out from the deepest part of Douglas's pouch with some difficulty. The thick-walled cyst, now empty, was then shelled out, and found to be an inflamed suppurating cyst of the left ovary, 4 inches in diameter. There were two small rents in its wall, and one large one. It was found that this last had been caused by tearing away the fimbriated end of the tube, which closely fitted the aperture, having formed part of the cyst-wall, and opened directly into the cyst. The left broad ligament was greatly thickened, but formed a satisfactory pedicle. The tube and cyst were removed. A coil of intestine had participated in the inflammatory process, its walls being as thick and firm as those of the inflamed tubes. The operation lasted one hour and forty minutes. The shock was alarmingly severe, and in fear lest the patient should die on the table, I did not stay to irrigate the peritoneum, but having inserted a drainage-tube and cleansed the peritoneum as well as I could, closed the wound and put her back to bed.

After an hour or two she rallied, and for the first day or two I thought the was going to recover. On the third day, however, she became very ill and restless, and on the fifth day she died. There was no post-mortem examination.

This case made a strong impression on my mind. It shows very strikingly the futility of expectant and palliative treatment where there is obvious disease of the appendages, even though the symptoms may at first be comparatively insignificant. The probability is that there was incipient and unsuspected tubal disease, in addition to the small cystic ovary, when the patient was first under treatment. I was not competent at that time to diagnose tubal disease in its early stages, and it is quite possible, if there were physical signs, that they were overlooked.

The course of pathological events seems to have been the following: Concurrent suppurative salpingitis and cystic disease of the ovary; pelvic peritonitis, with adhesion of both tubes to the gradually enlarging cyst; ulceration of the cyst-wall, ending in perforation and direct communication between the cyst and one of the suppurating tubes; infection of the contents of the cyst, causing suppuration of contents and inflammation of the cyst-wall; acute peritonitis and septicæmia. The operation, unfortunately, was too late to save the patient's life. No one, however, will, I think, hesitate to agree that it was the right treatment, and gave the patient her only chance.

Case 34. *History of two attacks of severe abdominal pain, one eighteen months ago after missing one menstrual period, the other a month ago after missing two periods; soft irregular swelling behind and to the left of the uterus, extending upwards and forming a distinct abdominal tumour; ill-defined thickening of right broad ligament; abdominal section; ruptured blood-cyst of right broad ligament; left hæmatosalpinx with intra-peritoneal hæmatocele; removal of diseased parts and of right ovary; recovery.*—A married woman, aged 29, was admitted into St. Thomas's Hospital August 19th, 1890, complaining of pain in the lower part of the abdomen and the back, and of a swelling in the left iliac region.

She was married at the age of eighteen, has had four children and no miscarriages. Her last child was born five years ago. After that she menstruated regularly until eighteen months ago, when, being a fortnight beyond her usual monthly period, she was seized very suddenly with an attack of pain in the lower part of the abdomen. This was followed a few hours later by a discharge like that of menstruation. She was seen at once by a doctor, who said she had an internal inflammation. She was on that occasion confined to bed for three weeks. She afterwards again menstruated normally until three months ago, when she missed two periods. On the morning of Sunday,

July 20th, that is a month ago, when the third period was about due, patient was again suddenly seized whilst at her housework with a very severe pain in the lower part of the abdomen, chiefly on the left side and in the back, compelling her to go to bed at once. Her face is said to have been pale and her features drawn. Hot flannels were applied all day. The pain passed off, but next day, whilst riding in a tramcar, it returned very violently, and she was seized with vomiting. Her husband met the car, and had to carry her most of the way home—about half a mile. She went to bed on reaching home, and the next day she sent for a doctor. On that day a very slight hæmorrhagic discharge from the vagina took place, which has continued up to her admission, the discharge never amounting to more than a stain. Soon after the commencement of the attack she noticed a swelling in the left iliac region. She had not considered herself pregnant, as she had not had her usual morning sickness.

On admission the patient was of a rather sallow complexion, but was well nourished.

The abdominal walls were flaccid; a firm and somewhat tender swelling could be felt in the lower part of the left side of the abdomen. The limit of this swelling in an upward direction was 2 inches below the level of the umbilicus; that on the left side reached as far as the middle of Poupart's ligament, while that on the right just transgressed the middle line. The swelling was dull on percussion.

The breasts were not swollen, but some secretion could be squeezed from the nipples.

A vaginal examination was made, under ether, on August 27th. There was much creamy mucus in the vagina; the mucous membrane was not discoloured. The cervix uteri was in its normal position. The body of the uterus was felt immediately beneath the abdominal wall, a little to the left of the middle line. The sound passed three inches. Behind the uterus was a soft irregular swelling, about the size of two fists, rising above the

level of the fundus and on a plane posterior to it. The uterus could be moved to a slight extent upwards and downwards independently of the swelling behind it. There was a small, hard, moveable body felt above the fundus uteri, in front of the deeper swelling, and immediately beneath the abdominal wall. Between the uterus and the right lateral wall of the pelvis some thickening existed in the neighbourhood of the broad ligament.

Abdominal section was performed September 4th, 1890. The first thing seen was a thin-walled, dark-coloured tumour situated to the right of the middle line, with omentum closely adherent to it. The tumour was separated first from the omentum, and then from its deeper adhesions. On bringing it to the surface there was observed a rent on its posterior aspect, through which dark clot was protruding. There were many small clots of the same kind lying free in the peritoneal cavity. The rupture had evidently occurred before the operation. On the surface of the tumour the right Fallopian tube was stretched out. The tumour itself appeared to be a cyst of the broad ligament filled with blood-clot. The ovary was normal. The cyst, with the adjacent tube and ovary having been removed, the left side was dealt with. There was here a larger tumour situated deeply behind the uterus, and closely adherent to a coil of large intestine which had become prolapsed into the cavity of the pelvis, and was intimately adherent behind to the posterior pelvic wall. The abdominal incision was now enlarged upwards and downwards until it measured $3\frac{3}{4}$ inches. Beneath the tumour was a quantity of old and recent blood-clot encysted in the peritoneal cavity. The hard moveable nodule felt above the fundus uteri before operation was the smaller, uterine, end of a pear-shaped swelling, $2\frac{1}{2}$ inches long by $1\frac{1}{4}$ inches wide, consisting of the left Fallopian tube, containing a firm dark blood-clot. The tube was removed, the hæmatocele cleared out, and the peritoneal cavity douched with hot boracic solution. A drainage-tube was inserted and the abdominal wound

closed. The operation lasted one hour and twenty minutes.

No trace of an ovum was discovered. The patient made a good recovery, and left the hospital, looking and feeling well, on the 4th of October, thirty days after the operation. There was a very small discharging sinus at the lower angle of the wound.

I saw her on January 5th, 1892, when she attended the hospital at my request. She has been well and at work without interruption since leaving the hospital. She is in robust health, with a good colour, and is still gaining flesh. She has menstruated regularly, commencing seven weeks after the operation. The wound is soundly healed.

October, 1892.—Stout and well; no pain; menstruates regularly.

The history of this case strongly suggests tubal gestation, but no positive evidence of it was obtained; and presuming the hæmatosalpinx and hæmatocele on the left side to have had such an origin, it is difficult to see what connection the ruptured blood-cyst in the right broad ligament can have had with ectopic gestation, unless, indeed, one supposes that the veins of the right broad ligament sharing the general enlargement of the pelvic veins due to pregnancy, one of them ruptured into an already existing broad ligament cyst. There may be a difference of opinion as to the propriety of including the case in the present series, but, as its nature was doubtful, it seemed to me, on the whole, the wiser course not to omit it.

Case 35. *History of pelvic pain extending over a period of more than fifteen years; recurrent pelvic peritonitis during last seven years, with long intervals of apparently good health; small cystic swelling behind left broad ligament; irregular swelling on right side of pelvis, thought to be an inflamed and adherent Fallopian tube; abdominal section; old pelvic peritonitis; small, tense, thick-walled*

cyst of left ovary; left tube slightly thickened; right tube thickened to a diameter of half an inch, densely adherent, fimbriated end bound down and occluded; no evidence of suppuration; both tubes and both ovaries removed; quick recovery and subsequent freedom from pain, and improvement in general health.—A married woman aged 51, a mangler, was admitted September 5th, 1890.

It was discovered when she was one year and nine months of age that she had so-called congenital dislocation of the hips. She married at thirty, and bore two children during the next three years, her labours, contrary to expectation, being easy and natural. Two years after the birth of her second child she began to suffer from aching in the lower part of the abdomen and down the thighs. Shortly after this she miscarried at two months. She recovered well, but a month later she had so much pain that she became an out-patient at St. Thomas's Hospital under Dr. Cory, and eventually an in-patient under Dr. Gervis. This was in 1875. In 1882 she again became an out-patient for bearing-down pain and yellow discharge, and a pessary was inserted, which, however, gave no relief. A year later, Dr. W. Duncan, acting for Dr. Cory, told her she had a small tumour that needed puncturing. Patient was admitted, but left the hospital in two months, nothing in the way of operation having been done. Belladonna was applied externally. Two days after leaving the hospital patient was seized with severe labour-like pains, rigors, and vomiting. She was readmitted for parametritis and enlarged Fallopian tube. Poultices were applied, and in three weeks she was pronounced by Dr. Gervis to be so much better as not to need operation. For five years she remained fairly well. Then she had another attack of pain with rigors and vomiting, and was sent to the Dulwich Infirmary, where she remained nine weeks, a recurrence of the severe symptoms occurring when she had been there three weeks. Nine months ago (Christmas, 1889) she missed two periods, and then had a rather

profuse discharge, with pain in the left side. Three weeks later she had an ordinary period, and since then (six months ago) she has not menstruated at all. Four months ago she consulted a doctor for pain in the left side and a yellow discharge. Caustic was applied to the womb once a week for a month without benefit, and seven weeks ago she became an out-patient at St. Thomas's, when she was advised to submit to operation.

On admission she appeared in fairly good health. On vaginal examination the body of the uterus was found large, the cervix in normal position and fairly moveable. Bimanually, to the left of the uterus, a smooth, tense, elastic swelling, the size of a small orange, was discovered. It was quite separate from the uterus and fixed. Above the right fornix, on a plane posterior to the cervix, was an irregular, ill-defined swelling, thought to be an enlarged and adherent Fallopian tube. Abdominal section was performed on September 9th, 1890. Behind the left broad ligament was a tense round cyst, firmly wedged in the pelvis, but not adherent. It was with some little difficulty brought into view, and was found to be a single thick-walled cyst of 2½ inches diameter, containing transparent fluid, of specific gravity 1005. The cyst and adjacent tube were removed. On the right side the tube, somewhat thickened, was prolapsed and adherent, the fimbriated end being very firmly bound down in Douglas's pouch. Surrounding the tube were several subperitoneal serous cysts. The separation was difficult owing to the firmness of the adhesions, but eventually the tube and normal ovary adjacent were tied off and removed. The body of the uterus was studded with a number of small subperitoneal fibroids. There was a good deal of oozing from torn adhesions, but no ligatures were required. The abdominal wound was closed in the usual way.

The portion of the right tube removed measured 2¾ inches in length and ½ inch in breadth. The portion of the left tube removed was 2 inches long and only slightly thickened. There was no fluid in either tube.

Recovery was satisfactory and rapid; the highest recorded temperature being 99·2°. The patient left the hospital well on the 8th October. On February 28th, 1891, she presented herself looking remarkably well. She had gained flesh and had had no pelvic pain of any consequence since the operation. She had not menstruated. She subsequently developed a small hernia at the lower angle of the wound. Otherwise she remained well and free from pain.

There can be little doubt that an earlier operation would have saved this patient from years of suffering and ill-health. With regard to the nature of the salpingitis, the evidence is insufficient to show whether it was septic or gonorrhœal. The case shows how insufficient palliative treatment is to effect a permanent cure under such circumstances, and offers a strong argument in favour of early surgical interference.

The next case affords still stronger evidence on this point.

Case 36. *Chronic ill-health for several years with intermittent attacks of purulent vaginal discharge and increasing dysmenorrhœa; acute symptoms of pelvic peritonitis after exposure to wet; swelling in left posterior quarter of pelvis diagnosed as thickened, tortuous, and adherent tube; uterus fixed; abdominal section; whole contents of pelvis matted by old adhesions; both tubes thickened, tortuous, and adherent, containing muco-purulent fluid; ovaries adherent, their outer coat thickened; appendages on both sides removed; recovery, followed by continuous improvement in health.*—A single woman, aged 34, employed as a barmaid, was admitted, October 9th, 1890, complaining of pain in the left side of the lower part of the abdomen and of slight hæmorrhage from the uterus. She was pale, thin, and careworn, and had the aspect of a person suffering from chronic illness. She stated that she had suffered from a thick, yellow, vaginal discharge many times during the past twelve years. For eight years she

had lived as a married woman, but had never been pregnant. She has suffered severely from dysmenorrhœa from the commencement of menstruation, the pain beginning a week before the flow, becoming acute during the first few hours and then gradually abating. These symptoms have been increasing in severity during the last five years. For some months sexual intercourse has been impossible on account of the pain it caused. There has been no definite pain in the pelvis, however, at other than the menstrual periods until three weeks ago, when her present illness began, though the general health has been seriously failing for several years.

On September 23rd, the day after the last period ceased, she got wet whilst going to her work and again on returning home. On the afternoon of the 24th she began to suffer from severe pain in the lower part of the abdomen and had poultices applied. In spite of the pain she got up and went to her usual evening employment. Next day the pain was less severe, but a slight hæmorrhage commenced. She again went out in the evening. The following day she was obliged to remain in bed, and on the 27th the hæmorrhage became so profuse that a doctor was sent for and deemed it necessary to plug the vagina. During the following week, the hæmorrhage continued slightly and the doctor told her she was suffering from inflammation.

On admission, the temperature was 99°, the pulse 100, the tongue coated, the bowels confined. On examination *per vaginam*, the uterus was found fixed. In the left posterior quarter of the pelvis was a moderately hard mass, passing outwards from the uterus, then curving backwards and terminating in the retro-uterine pouch. This swelling was believed to be the distended and adherent Fallopian tube.

Abdominal section was proposed and agreed to. The operation was performed on October 16th, 1890. Some serous fluid escaped on opening the abdomen. The posterior part of the pelvis contained a mass of adherent

viscera, consisting of the uterus, both Fallopian tubes tortuous and enlarged, the ovaries, some omentum and several coils of intestine. The omentum having been separated and a ragged portion ligatured and removed, the right tube and ovary were with difficulty separated and removed, the difficulty being greatly increased by the adhesion of the uterus posteriorly preventing its being lifted up so as to bring the parts well into view. The left appendages were then separated, with still greater difficulty, and removed. A small quantity of old blood-clot was found beneath the fimbriated end of the tube, surrounded by adhesions. Some coils of intestine, adherent to the posterior wall of the pelvis, were left undisturbed. The peritoneal coat of one of the coils of intestine was accidentally pinched beneath the ligature round the right tube. It was quickly set free without dividing the ligature, and the little wound closed by three fine silk sutures. There being a good deal of oozing a drainage-tube was left in and the abdominal wound was closed. The operation lasted two hours.

The walls of both tubes were found on section to be considerably thickened. There was some muco-purulent fluid in both, the quantity being greater in the left than in the right. There was no ulceration of the mucous membrane. The ovaries were large and succulent, their outer coat thickened and shaggy from peritoneal adhesions.

The patient made a good recovery. She passed flatus at 8 p.m. on the second day. She passed urine naturally on the second and third days, required the catheter on the fourth and fifth, and after that again passed urine voluntarily. The drainage-tube was removed in forty-eight hours. The bowels acted after an enema on the fourth, eighth, and eleventh days. The temperature on the day following the operation varied between 99·8° and 100·8°; for the next three weeks it was under 100°. There was a little ill-smelling pus found daily on the vaginal pad up to the 25th of October, *i. e.* during the

first ten days. The stitches were removed on the ninth day. There was no abdominal distension throughout. There was some rise of temperature with abdominal pain and vomiting on November 12th, but these symptoms quickly disappeared. The patient was sent to a convalescent home on November 22nd; whilst there she gained 4½ lbs. in weight. On January 6th, 1891, she was still gaining weight and improving in colour and remained free from pain. There was nothing abnormal to be felt in the pelvis, save a little hardness high up behind the cervix.

On October 27th, 1891, having had a severe cold attended with some pelvic pain, she presented herself to ascertain whether there was anything wrong. On vaginal examination no abnormal swelling or tenderness was found; the uterus was moveable, and the posterior quarters of the pelvis were free. On March 10th, 1893, she attended at the hospital. There had been no menstruation since the operation. She had been at work uninterruptedly since February, 1891, and declared herself to be now in better health than she had been for several years before the operation.

Though there is no absolute proof that this was a case of gonorrhœal salpingitis, all the evidence is in favour of that opinion. The beneficial effect upon the health, of the removal of the diseased tubes, has seldom been more striking. One can scarcely recognise the patient as being the same person.

Case 37. *Pelvic pain for six years; peritonitis twelve months ago; continually increasing pain since; admission chiefly on account of hæmorrhage due to a mucous polypus; removal of polypus; pelvic pain complained of, thought to be functional; development of septicæmic symptoms; mass discovered on one side of pelvis; abdominal exploration; both tubes tortuous, inflamed and adherent with muco-purulent contents; small cyst of right ovary full of fœtid pus; small intra-peritoneal abscess in Douglas's pouch; removal of both*

tubes and suppurating ovarian cyst; recovery followed by improved health; death a few months later from cancer of stomach.—A single woman, aged 46, a housekeeper, was admitted into the hospital September 23rd, 1890, complaining of pain in the pelvis, especially on the right side, and of slight but continuous uterine hæmorrhage. The hæmorrhage dated from March, 1889, and the pain from an attack of peritonitis, in August, 1889, which was caused by getting wet, and which obliged her to keep her bed for several weeks. For at least five years before this, however, she appeared to have suffered more or less from pain in the right side of the pelvis and in the back, especially on walking or making any exertion. This pain has been much worse during the last three months.

The patient was a dispirited-looking woman, of dark complexion, of fairly healthy colour and in moderately good condition.

On September 23rd, a small mucous polypus of the cervix was removed by torsion.

On September 30th, an examination was made under ether. An irregular, hard, adherent mass was found high up behind and to the left side of the uterus. This was thought to be the prolapsed and adherent left tube and ovary.

On October 6th, the hæmorrhage had ceased, but the pain continued. I was disposed to think the patient magnified her sufferings, which at this time I regarded as largely of a functional character. A week later, however, it was observed that the patient was becoming thinner and weaker; the pain complained of was more severe, especially on the right side; the temperature rose a little in the evening; and the tongue had become dry, red, and glazed. It was evident, therefore, that there was some septic absorption going on, and I suggested an exploratory operation, which the patient readily agreed to.

The operation took place on October 23rd. The omentum, thickened by inflammation, roofed over, and was

adherent to, the contents of the pelvis, which were themselves all densely matted together from old peritonitis. The right tube, much enlarged and universally adherent, was first separated. During the process, a quantity of dirty, brown, fœtid, purulent fluid welled up. When the appendages were brought fully into view, it was seen that this fluid had escaped from a small inflamed cyst of the right ovary owing to accidental rupture during separation. The remainder of the right ovary was dense and thickened from chronic inflammation.

The bladder was much thickened and the proximal portion of the right tube was intimately adherent to it. The connection was highly vascular but was separated without injury to the bladder. The left tube was much enlarged and thickened and universally adherent, its fimbriated end being very firmly adherent to the lower part of the posterior surface of the uterus. Both tubes were removed. There were still remaining some hard irregular masses in the left posterior quarter of the pelvis; but, although the left ovary was contained amongst these, they were so densely and deeply adherent that it was deemed unwise to attempt their removal. Below the adherent left tube, in Douglas's pouch, there was a small collection of purulent fluid, containing masses of coagulated lymph. There was a good deal of oozing from separated adhesions, but no wounded vessel was of sufficient importance to need ligature. A large piece of inflamed omentum that had been much soiled by the fœtid pus was ligatured and cut off. A drainage-tube was passed as deeply as possible, and the abdominal wound closed in the ordinary way. The operation lasted two hours.

Description of parts removed.—Both tubes were enlarged, their coats thickened and succulent, a quantity of thick purulent mucus in their canal. The mucous membrane was swollen and discoloured, but the rugæ were very distinct, and there was no ulceration. The fimbriated ends of the tubes were constricted as by a ligature, but

were not occluded. The portion of the right tube removed measured 4½ inches in length; it was much contorted, and was larger both in breadth and length than the left tube. The portion of left tube removed was 3 inches in length.

The left ovary was absent.

The right ovary, an inch and a half in diameter was dense from chronic inflammation. At one end of it was a thick-walled cyst, the size of a Tangerine orange, from which the contents had escaped.

The temperature, which immediately before the operation had averaged 99° in the morning, and 100° to 101° in the evening, fell after the operation nearly to normal, the highest record during the first week being 99·4°. The patient required morphia the first two nights. The drainage-tube was removed in forty-four hours. The patient had an action of the bowels (after an enema) and passed urine naturally on the fourth day. The stitches were removed on the ninth day.

On the twelfth day, the patient having complained of a good deal of pain for a day or two, there was observed some abdominal distension, with tenderness and fluctuation near the lower angle of the wound. The lower part of the wound was accordingly reopened for a short distance (½ inch) and exit given to a large quantity of thick, dirty, ill-smelling pus. An india-rubber drainage-tube was inserted, and left in until November 29th, when the discharge had ceased. After that there was no further discharge, except once, viz. on December 4th, when, in consequence of some pain about the lower end of the wound, a probe was passed and a little pus welled out. The temperature between November 4th and December 9th ranged between 97° and 99·2°.

The patient left the hospital on December 10th, looking stout and well.

On February 27th, 1891, she had gained flesh, and was feeling well. She complained of a little pain on the right side of the pelvis, where there was some thickening to be

felt in the situation of the pedicle. There was no swelling on the left side or posteriorly.

On June 24th she wrote,—"Since seeing you I have greatly improved in health, and can walk better than I have done for years."

Shortly after this, she consulted me on account of a tumour in the breast. The tumour was removed by one of my surgical colleagues and proved to be a carcinoma. She recovered from the operation, but I heard that she died in November, 1891, from cancer of the stomach.

There is no evidence to show what was the origin of the purulent salpingitis in this case. I am not in possession of the private history of the patient and cannot say whether the mischief was gonorrhœal or septic. Notwithstanding the eminent respectability of the patient, I strongly suspect it was gonorrhœal. Finding a mucous polypus to account for the hæmorrhage, and regarding the pain the patient complained of as mostly, if not wholly neurotic, I very nearly let her leave the hospital without having treated, or even discovered, the active disease going on in the uterine appendages. Even when I found an inflammatory mass behind and to the left of the uterus, I thought it was merely the remains of an old pelvic peritonitis, and might safely be disregarded. It was only when unmistakable symptoms of septic absorption showed themselves that I realised the serious nature of the case. The result fully justified the exploratory operation. There was pus in an ovarian cyst, in both tubes, and amongst the adhesions in Douglas's pouch. The effect of removing all this was highly satisfactory. Unfortunately the patient succumbed to cancerous disease, first of the breast and afterwards of the stomach, before she had enjoyed her renewed health for more than a few months.

CASE 38. *Puerperal peritonitis thirty years ago; no subsequent pregnancy; great pain and discomfort in pelvis since, especially at menstrual periods; symptoms worse during last few months; soft swelling in front of retroverted and*

adherent uterus, filling up right side of pelvis ; abdominal section ; several serous cysts of right broad ligament ; uterus and appendages bound down by old adhesions ; cysts removed ; uterus set free ; death on twelfth day from septic peritonitis.—A married woman, aged 51, was admitted November 3rd, 1890, on account of very severe pain in the lower part of the back, increased by movement or stooping, also of great pain before and during defecation.

She had borne but one child a year after her marriage, thirty years ago. She states that she was in labour a week and that she was in bed for six weeks after her confinement, with what the doctor said was inflammation. Since then, there has been constant pelvic pain with dysmenorrhœa and a tendency to slight hæmorrhage on the slightest provocation. Menstruation ceased from August 1889 to January 1890. Then there was a profuse flow which lasted a month and from that time to April there was a continuous slight loss accompanied with incessant pain in the back and lower part of the abdomen.

On admission there could be felt a soft swelling equal in size to a man's closed fist in front and to the right of the uterus. The cervix was directed downwards and forwards ; the sound passed backwards three inches.

Per rectum the posterior surface of the body of the uterus could be traced to the fundus, round which the finger could be hooked ; from the cornua a tense band passed upwards and outwards on each side, presumably the upper border of each broad ligament rendered tense.

Abdominal section was performed on November 10th. Occupying the whole of the right side of the pelvis were a number of thin-walled subperitoneal cysts of the right broad ligament, one of which was the size of a large orange. Some of the cysts contained clear serum, others contained serum stained by altered blood. All the cysts were densely adherent to surrounding parts, except anteriorly. With considerable difficulty they were separated, brought into view, and removed by transfixion of the broad ligament beneath them. The body of the retro-

verted uterus was adherent to the posterior pelvic wall by a number of firm bands which were torn through by the fingers. The uterus was then straightened and a Hodge's pessary introduced into the vagina. The tubes and ovaries were bound down by old adhesions and prevented the body of the uterus from being fully anteverted. They were not disturbed. A good deal of bleeding took place from the separated adhesions. The peritoneal cavity was douched with hot boracic solution, a glass drainage-tube inserted and the abdominal wound closed.

Next day there was slight hiccough, retching, nausea, pain, thirst, and a good deal of abdominal distension. On the third day there was continual sickness. Much flatus and a little fæcal matter passed after enemata, but the distension continued. Drachm doses of magnesium sulphate were tried, and at long intervals injections of morphia. On the fifth day the distended abdomen was punctured in two places with insignificant result. This treatment was repeated next day with no effect. On the seventh day a copious enema mixed with glycerine was given. This was followed by the passage of several liquid motions and much flatus, the distension remaining unrelieved. After this there was no more sickness, and the bowels continued to act. It was now thought that the danger had passed, and the patient's bed was moved into the general ward, but at 4 a.m. on the twelfth day she complained of very severe pain, and at 8.20 a.m. she died in a state of collapse.

The temperature was for the most part normal or subnormal throughout; the highest record until a few hours before death was 99·4°. The pulse varied from 80 to 120.

Autopsy made thirty hours after death by the late Dr. Gulliver. General peritonitis. The coils of intestine were glued together by exudation, and there was a considerable quantity of ill-smelling semi-purulent fluid in the cavity. The inflammation was most intense in the pelvis. The uterus was adherent to the back of the

pelvis by some old fibrous bands. The left Fallopian tube was occluded at its fimbriated end and formed a cyst containing about an egg-cup full of clear fluid. Ovary normal. On the right side of the pelvis was the stump of the uterine appendages with its ligature.

Had I known that the swelling on the right side of the pelvis consisted merely of a number of sub-serous cysts, I should not have advised an operation. Looking back upon the case, I think probably the best treatment after opening the abdomen would have been to puncture and evacuate the cysts instead of removing them. The after-treatment was based on the supposition that the symptoms were due to simple intestinal paralysis. The autopsy showed that they were really due to septic peritonitis.

Case 39. *Attack of pelvic peritonitis in March,* 1889; *hard smooth swelling in right posterior quarter of pelvis pushing uterus forwards and to the left; bursting of abscess into rectum on nineteenth day; recovery with disappearance of tumour and fixation of uterus; readmission November,* 1890, *on account of pelvic pain and slight purulent discharge from rectum; reappearance of swelling on right side of pelvis; abdominal section; small thick-walled suppurating cyst of right ovary removed; no intra-peritoneal abscess discovered, but subsequent escape of pus from wound; recovery with complete re-establishment of health.*—An unmarried woman, aged 33, an ironer, was admitted November 4th, 1890, on account of pain in the pelvic region and a purulent discharge from the rectum.

Nineteen months ago, viz. on March 19th, 1889, eight days after a normal menstrual period she was suddenly taken ill whilst at her work, with pain in the back and lower part of the abdomen, shivering, nausea, and a profuse discharge of blood from the vagina. She went home at once and to bed, and lay awake with the pain all night. Next day she attempted to resume her work, but had to leave it and go home. She was afterwards seen by a doctor

who told her she had inflammation of the bowels with a displacement of the womb, and advised her to seek admission to a hospital.

She was admitted at St. Thomas's under my care April 1st, 1889. The hæmorrhage had by this time ceased, having lasted four days. She still complained, however, of severe pain in the lower part of the abdomen, and she had retention of urine, requiring the use of the catheter. There was a discharge of mucus from the bowel whenever she moved.

The condition found on vaginal examination was as follows:—Uterus displaced anteriorly and fixed; fundus 1¾ inches above top of symphysis pubis a little to left of median line. On right side extending from uterus to lateral wall of pelvis, a hard, uniform, smooth swelling, inseparable from the uterus and rather tender to the touch. No swelling on left side. Immediately behind the supra-vaginal portion of the cervix, a small, hard, irregular swelling. The upper margin of the swelling on the right side 2¼ inches above Poupart's ligament.

On April 6th a discharge of pus took place from the bowel; this continued for forty-eight hours. The pus was thick, yellow, and without odour. The total quantity passed was estimated at 6 to 8 fl. oz. On April 9th there was a discharge from the bowel of clear transparent mucus. On the 18th the patient felt quite well, she had no pain and there was no discharge. On the 30th the physical signs were as follows:—Uterus absolutely fixed; no swelling behind it, but the parts in Douglas's pouch so adherent that the vaginal roof cannot be pushed up. No depression of either lateral fornix, but the whole of the right side of the pelvis occupied by an irregular, fixed, hard mass. Bimanually, no tumour can be felt. Nothing abnormal on left side.

The patient was free from pain; her temperature was normal and had been so since the 8th.

On May 21st the resistance above right fornix and in Douglas's pouch was less marked, though still quite evi-

dent. Fixation of uterus less absolute. Patient left the hospital on June 8th.

For the next two months after this she remained quite free from pain or inconvenience of any kind. But about the end of that time she noticed that she had to go to stool more frequently than usual, and she often passed nothing but a small quantity of yellow matter. This continued up to three weeks before her readmission, when the desire to defecate became much more frequent, the matter passed being generally purulent. For the last week she had suffered a good deal of pain whilst at work.

Patient is a thin, sallow, dark-complexioned woman with a badly formed chest. On readmission (November 4th, 1890) there was a hard, smooth swelling felt to right of and behind the uterus, and the evacuations contained pus. The pulse was 72, the temperature normal.

Abdominal section was performed November 12th, 1890. A small, inflamed, tense, and thick-walled cyst of the right ovary containing 3½ fl. oz. of dark, thick, fœtid pus, was with much difficulty separated from the very dense and vascular adhesions which surrounded it on all sides. The cyst was brought into view, punctured with a trocar, partially emptied and removed, together with the inflamed right tube which was closely incorporated in the cyst-wall, but was pervious throughout and did not communicate with the interior. The cyst was single; it measured 2½ inches × 1½ inches; its wall was of the uniform thickness of ¼ inch; its cavity was lined by inflammatory lymph. No intra-peritoneal abscess was found or any communication with the rectum discovered; the left ovary was healthy but surrounded with adhesions, which were separated without removing either tube or ovary. The peritoneal cavity was douched and a glass drainage-tube inserted before the abdomen was closed. The operation lasted an hour and a half.

The patient was sick from time to time up to 2 p.m. on the 14th. As there was pus in the discharge, the glass drainage-tube was replaced that day by an india-rubber

one. Flatus passed naturally on the 15th. The discharge was slight, the microscope showed it to contain pus. On the 17th the bowels were opened four times after a dose of castor oil; no pus was visible in the evacuations. The stitches were with one exception removed on the 20th; a little ill-smelling pus was then coming from the wound. On December 8th there being little or no discharge, the drainage-tube was finally removed. On December 13th patient was very comfortable; there had been no pain or rise of temperature since the removal of the tube. She sat up in bed on the 10th, got up for the first time on the 15th, and left the hospital well on the 31st. There was no swelling in the pelvis, the uterus was fixed. The highest temperature after the operation was 99·4°, except once (on November 21st) when, after an enema, it reached 100°. From and after December 1st it was uniformly normal or subnormal.

April 18th, 1891.—Patient presented herself on account of a pharyngeal catarrh. In other respects she was quite well. She had gained flesh and her skin had assumed a healthy colour. She had had no pain in the pelvis or discharge from the bowel since leaving the hospital. She had menstruated regularly and been able to do her work easily.

October 17th, 1891.—Applied for help towards the purchase of a belt, the abdominal wall being weak. She has no pain, but when tired has cramp-like sensations in the lower part of the abdomen. She has not menstruated for three months. She is working hard as an ironer two or three days every week from 8 in the morning to 9 at night.

Although no intra-peritoneal abscess was discovered during the operation, the subsequent discharge of pus through the abdominal wound makes it probable that such an abscess existed, the remains of the large abscess which had burst into the rectum eighteen months previously. The inflamed condition of the right Fallopian tube renders it more than likely that the abscess had its

origin in suppurative salpingitis, the pus escaping from the tube into the peritoneum. The incomplete evacuation of the abscess when it burst into the bowel would account for the subsequent symptoms and for the infection of the neighbouring ovary. The result of the operation was all that could be desired.

CASE 40. *Pain in left iliac region and temporary rise of temperature on the ninth day after delivery, without discoverable lesion; recurrence of the pain at intervals; pain worse on returning to work; six months after confinement development of a fixed swelling in left posterior quarter of pelvis, with purulent discharge from uterus; diagnosis of salpingitis with pelvic peritonitis; abdominal section; left pyosalpinx with adhesion of tube and ovary; left appendages removed; recovery interrupted by acute bronchitis but otherwise satisfactory; persistence of pelvic pain; no lesion discoverable.*—An unmarried girl, aged 22, a servant, was delivered of a full-term child at the General Lying-in Hospital in April, 1890. The labour was tedious, and delivery was effected by forceps. The perineum was slightly torn. On the ninth day the temperature, which up to that time had not exceeded 100°, rose to 102·6°, and the patient complained of pain in the left iliac region. Dr. Herman made a vaginal examination and found nothing abnormal. Next day the pain had disappeared and the temperature was normal. On the 14th day the patient was sent to a convalescent home, where she remained four weeks. During her stay there she had a recurrence of the pain which was quickly relieved by the application of a blister. After leaving the home, she had a good deal of pain in the back and in the left iliac region, with frequent discharge of blood from the vagina. She was able to do her work, however, until the beginning of September, when the pain became severe, and the discharge continuous and profuse.

She was admitted to St. Thomas's Hospital October 25th, 1890. A purulent discharge was seen issuing from

the *os uteri*, both lips of which were the seat of a catarrhal erosion. The cervix was dilated and the interior of the uterus curetted, with the result of bringing away some clots and some fragments of membrane. The pain and yellow discharge continued, and on November 14th an examination was made under anæsthesia. On the left side, anterior to and below the retroverted body of the uterus, was felt a well-defined oblong mass, depressing the left vaginal fornix. The mass was divided by a sulcus into two portions, one a smooth, rounded body, suggestive of an ovary, the other a hard, elongated swelling passing some distance outwards, and situated behind and below the smaller swelling. Nothing abnormal was felt on the right side.

The diagnosis was diseased left Fallopian tube, with pelvic peritonitis and adhesion of tube and ovary to each other and to surrounding parts.

Abdominal section was proposed and agreed to.

The operation was performed on November 19th. The uterus was slightly thicker and larger than normal, somewhat retroverted and inclined to the right side, and connected with the posterior wall of the pelvis by numerous bands of adhesion, recent and easily separated. The left tube and ovary were adherent to each other, to the back of the broad ligament and to other surrounding parts. The tube was thickened by inflammation, and unequally dilated, owing to a sharp bend. The main dilatations were two in number, and were felt to contain fluid. The distal end was occluded. The ovary was normal in size and appearance, but completely enveloped by adhesions. The ovary and tube were removed together. The right tube was normal. The right ovary was normal in size and appearance, but was prolapsed and adherent over its entire surface. These adhesions having been easily separated, the right tube and ovary were left without further interference. There was a considerable amount of oozing from the separated adhesions. The pelvis was well sponged and a glass drainage-tube inserted before closing the

abdominal wound. The operation lasted an hour and a quarter.

On opening the diseased left tube it was found to contain thin purulent fluid. The mucous membrane was pale and swollen, but showed no sign of ulceration, new or old. The muscular wall was thickened; it measured a ¼ inch. The ovary was normal.

Convalescence was retarded by an attack of bronchitis, but otherwise she made a good recovery, and was able to be sent to a convalescent home on December 10th.

On January 13th, 1891, she was readmitted and she then made the following statement. Two or three days after leaving the hospital she began to reject her food from half an hour to an hour after each meal. Pain in the back, which was present to a slight extent when she was discharged, became worse, shooting into the right side. She had had attacks of shivering followed by perspirations. Three days after leaving the hospital, the yellow vaginal discharge had reappeared.

Her temperature on readmission was normal. She was examined on the 16th of January, and again under ether on the 28th, with an entirely negative result. No swelling could be found in either posterior quarter of the pelvis. She was accordingly discharged.

A few months later she applied at the Westminster Hospital complaining of pelvic pain. She was examined by Dr. Potter and nothing abnormal was found.

On November 17th, 1891, she presented herself again at St. Thomas's, still complaining of pelvic pain and some metrostaxis. I examined her carefully but could not detect any swelling. The uterus was movable and the posterior quarters of the pelvis free.

This is one of the very few cases in which pain has persisted after removal of diseased appendages. It may, of course, be due to mischief in the remaining and apparently healthy tube, but in the absence of any evidence of peritonitis or alteration in the size and position of the right appendages, I am much more disposed to think

that the pain has no pathological significance. I hope I am not doing the girl an injustice if I suggest that her persistent complaints are due to her having discovered that hospital life is easier than the work of a domestic servant.

CASE 41. *Acute pelvic peritonitis seven weeks after fourth confinement; a week later large mass on left side of pelvis and smaller one on right, depressing vaginal roof laterally; after another week, swellings smaller and better defined, thickened and adherent tubes being traceable; development of cellulitis around cervix; gradual recovery; return to household duties for nine months, though in more or less constant pain; recurrence of acute peritonitis; soft mass in right posterior quarter of pelvis with thickened Fallopian tube; diagnosis of diseased right ovary with inflamed tubes and peritonitis; abdominal section: right ovary enlarged and honeycombed with abscesses; right tube occluded and inflamed; pelvic contents matted together; right appendages removed; left fairly healthy, not removed; accidental wound of intestine sutured; escape of fœtid pus from lower angle of wound on tenth day; fæcal stain on one occasion only; recovery with re-establishment of health; small sinus with slight discharge two months after.*—A married woman, aged 25, was first admitted to St. Thomas's Hospital December 2nd, 1889. She had been confined of her fourth child seven weeks previously. After the confinement she suffered severely from after-pains and headache, and was kept in bed for fourteen days. The headache persisted, and although she went about the house she did not go out-of-doors. Some hours before her admission, she was seized with sudden abdominal pain and faintness. This attack she attributed to having got her feet wet two days previously, whilst washing clothes in the yard.

She was a stout, pale, anæmic, despondent woman of feeble intelligence. Her urine contained one sixth to one tenth albumen.

The fundus uteri was 4 inches above the pubes and 2 inches below the umbilicus. There was a sense of resist-

ance in left iliac region, bounded above by a well-defined margin on a level with the anterior superior iliac spine. There was tenderness in the right iliac fossa, without definite swelling or sense of resistance. The percussion-note was absolutely dull from the top of the pubes to a line 3 inches above that.

On vaginal examination the uterus was found fixed, the cervix shortened, the os patulous. The left fornix was depressed by a firm slightly elastic mass, continuous with the mass felt in the abdomen. The right fornix was slightly depressed, by a similar though less easily definable mass. There was no fulness or depression of the pouch of Douglas, but high up a firm band could be felt stretching across behind the upper part of the cervix. This band was still more distinct on examination *per rectum*.

The temperature, which on admission was 101°, varied

on the	3rd	December	between	100·6°	and	102·6°.
,,	4th	,,	,,	100·4°	,,	103·2°
,,	5th	,,	,,	99°	,,	101·2°
,,	6th	,,	,,	100°	,,	101·8°
,,	7th	,,	,,	99·6°	,,	102·4°
,,	8th	,,	,,	98·4°	,,	102·8°
,,	9th	,,	,,	97°	,,	103·4°
,,	10th	,,	,,	98°	,,	100°

After which it was usually normal, and did not exceed 100·6° up to the time of the patient's discharge on the 26th January.

On December 17th (a fortnight after admission) the firm mass in the left iliac fossa had disappeared. The left vaginal fornix was slightly depressed by a firm mass which, bimanually, could be differentiated into, anteriorly, a thickened and contorted Fallopian tube, traceable from the cornu of the uterus outwards and curving round to the back of the broad ligament, and posteriorly, a larger softer mass, thought to be the ovary. High up, behind the cervix, could be felt a fixed, firm, swelling continuous with the adherent mass already described as occupying

the left posterior quarter of the pelvis. The right appendages were not felt through the vagina, but, *per rectum*, the right tube, thickened, could be felt bent upon itself and turning down behind the uterus.

The urine still contained one tenth albumen. On January 10th, 1890, the uterus was in normal position, its mobility impaired. Masses felt on both sides of the pelvis, apparently consisting of broad ligament and appendages intimately matted together. The mass on the right, higher up than that on the left, extended outwards and backwards to the pelvic wall. On the left the tube ran out and back and then curved downwards behind the uterus, closely adherent to the mass round which it curved. The lateral fornices were depressed; the supra-vaginal portion of the cervix was completely surrounded by a hard collar. *Per rectum* a depression could be felt in the middle line above the cervix, and, higher up, a firm transverse band, causing a projection in the rectum. From this band tense bands could be felt, diverging like the arms of the letter V, and passing upwards and backwards. The right arm of the V was more distinct than the left, which was interrupted by a rounded prominence.

On January 22nd, 1890, the swellings in the pelvis were all found smaller, and on the 26th the patient went home.

The patient was readmitted on November 12th, 1890. She then stated that she had been able to do her housework and look after her children ever since she left the hospital, though she had never felt really well, and had suffered from time to time from pain in the pelvis and thighs, especially on the right side. On November 8th she was taken ill with vomiting and very severe pain in the abdomen and right groin shooting down the thigh. Since then she has perspired profusely at night.

On vaginal examination there was found an ill-defined soft mass behind and to the right of the uterus; and a

smaller, harder, and more irregular mass on the left. The uterus was normal in position. There was a trace of albumen in the urine.

The diagnosis was a diseased and enlarged right ovary with inflamed and adherent Fallopian tubes.

On November 28th, 1890, abdominal section was performed. The pelvic viscera were found matted together, omentum and large intestine being also involved. A band of omentum was adherent to the bladder, and a broader one to the parts behind the uterus. These were tied and divided. To the right of and behind the uterus was a soft rounded mass, which, after careful separation of adhesions, was brought into view and seen to be the right ovary diseased and enlarged. With the ovary was removed the inflamed and thickened right tube. The left appendages being fairly healthy, it was decided not to remove them. A thickened coil of large intestine dipped down to the floor of the retro-uterine space to which it was intimately adherent. This having been separated and brought into view, it was found that, during the process of separation, the coats of the intestine had been torn, leaving an aperture large enough to admit the tip of the finger, through which the mucous membrane protruded. This rent was closed by four Lembert's sutures of fine silk. The tip of the appendix vermiformis was also adherent to the floor of the retro-uterine space; this was left undisturbed. The pelvis was now cleansed with sponges, a glass drainage-tube inserted, and the abdominal wound closed.

Description of parts removed.—The right ovary measured $2\frac{1}{2}$ inches by $1\frac{3}{4}$ inches. On section it was found to be honeycombed with spaces, containing thick yellow pus. The portion of right tube removed was $2\frac{1}{2}$ inches in length. Its wall was $\frac{1}{5}$ inch thick; the fimbriated end was occluded. The mucous membrane was swollen and œdematous. There was no ulceration and no pus was found in the tube. The mesosalpinx was thickened. Mr. Shattock reported that the ovary had very much the

appearance of tuberculous disease. A portion was put aside for microscopical examination, but appears to have got misplaced, as it could not afterwards be found.

The convalescence was somewhat prolonged. The drainage-tube was removed in twenty-four hours. On the third day some blood escaped from the rectum. On the fourth, the urine contained a good deal of blood. On the fifth day two fluid ounces of blood passed from the rectum. The stitches were removed in a week. On the following day, there was a fæcal stain on the dressing; nothing of the kind was seen again. On the tenth day a little fœtid pus escaped on probing the lower angle of the wound, and on the twelfth day there was a more free discharge of pus of the same character, but again without any admixture of fæces. After this, the temperature was normal, the discharge was very slight and less offensive, and the patient improved in every way. She was discharged on the 24th January, 1891. She had gained flesh and had a good appetite. The sinus had not quite healed; the discharge was very slight, and not offensive. On February 17th the sinus was still discharging; the general health was very good. The first menstruation occurred February 13th to 16th.

Whatever the nature of the ovarian abscesses in this case, it seems quite certain that the earlier attack of pelvic inflammation, in which the tubes, the peritoneum, and the pelvic connective tissue were all involved, was of a septic character. My own belief is that the ovary became the seat of suppuration at that time, as part of the septicæmic process, and that the disorganization of the ovary had been going on ever since, without producing very definite symptoms, until, on some slight provocation, a fresh attack of acute peritonitis occurred and the patient became very seriously ill. This is a very common experience. A patient often goes about for months with pelvic suppuration, provided the pus be well shut off from the peritoneum. But she is always on the brink of a precipice, liable at any moment to have her life

imperilled from fresh inflammation or from the advance of the destructive process.

CASE 42. *Uterine hæmorrhage followed by occasional pain in the pelvic region in a girl of twenty; continuance of symptoms for two months; swelling in abdominal wall, and soft elastic mass in right posterior quarter of pelvis, thought to be a hæmatoma; no diminution after a month's rest; abdominal section; abscess (tubercular) in sheath of right rectus abdominis; miliary tubercle of entire peritoneum, without peritonitis; soft mass beneath peritoneum covering posterior part of floor of pelvis on each side; abscess in abdominal wall evacuated; abdomen closed; recovery; no further symptoms beyond wasting; twelve months later health completely restored.*—A girl aged 20, engaged as a mother's help, applied for treatment in the out-patient department of St. Thomas's Hospital on account of hæmorrhage which had been going on for two months. There was no obvious cause for the hæmorrhage, menstruation having been previously quite regular. It commenced with a profuse discharge in August, 1890, two weeks after a period, as she was carrying coals in the usual way. She had no pain at the time, but has since occasionally had pain in the lower part of the abdomen.

She was admitted on the 25th October, 1890. She had a healthy appearance; her colour was good, and she walked as though nothing were amiss. The heart and lungs were normal. There was a small smooth swelling, about the size of a pigeon's egg, apparently in the abdominal wall, just above the right pubic spine.

A vaginal examination was made on October 29th under ether. The uterus was of normal size; the body directed somewhat towards the left, cervix towards the right. To the right of the uterus and on a plane posterior to it, was a soft ill-defined swelling. This was thought to be a hæmatoma of the broad ligament, and it was decided to watch it.

On November 15th the mass had rather increased than

diminished, and it was decided to make an exploratory incision. There has been no hæmorrhage since October 28th.

On November 22nd abdominal section was performed. The lump above the right pubic spine was cut into in making the incision, and was found to be an abscess in the sheath of the right *rectus abdominis*. About 1½ fl. oz. of thick curdy pus was evacuated. On opening the abdominal cavity, the parietal and visceral layers of peritoneum were seen to be everywhere studded thickly with miliary tubercles. A large, soft, elastic mass was felt deeply down in the posterior part of each side of the pelvis. The structures implicated could not be differentiated. It was considered inadvisable to interfere with these swelling, and a drainage-tube having been inserted, the abscess-cavity in the abdominal wall was thoroughly scraped and the abdomen closed.

The patient recovered from the operation without a bad symptom, and left the hospital on the 20th December. After this, she became very thin and weak.

Exactly twelve months after the operation the patient was examined by Dr. Herbert Hawkins, Assistant Physician to St. Thomas's Hospital. She was looking very well and had completely regained her strength. She presented no physical signs of disease either in the chest or abdomen. Shortly before this I had made a vaginal examination and found little or no swelling; the uterus was in its normal position.

October 22nd, 1892.—Is again losing flesh and feeling weak. No definite signs of disease.

There can be little doubt that the masses in the pelvis were of tubercular origin; their probable seat being beneath the peritoneum lining the floor and posterior wall of the pelvis. I did not open them because I did not see how, at such a depth, they could be efficiently drained, and, in the presence of disseminated tubercle of the general peritoneum, it did not seem justifiable to attempt any radical operation for their removal. For some months

the pale and wasted appearance of the patient suggested general tuberculosis, and her present healthy look and improved condition have certainly filled me with surprise. The case is one of much interest and importance in connection with the curability of peritoneal tubercle. Its bearing on this question has been dealt with by my colleague, Dr. Hawkins, in a paper published in the 'St. Thomas's Hospital Reports,' New Series, vol. xx, p. 25.

Case 43. *Pelvic pain, commencing two months after marriage, gradually increasing for two years; loss of flesh and of strength; entire inability to work for eight months, and for one month entire confinement to bed; pelvis filled with a lobulated swelling pushing uterus forwards and to left, diagnosed as double pyosalpinx; history of gonorrhœa in the husband a few months before marriage; abdominal section: both tubes greatly distended with pus; ulceration of their mucous membrane; tubes removed; shock of operation severe; uninterrupted convalescence; complete restoration to health with regular and normal menstruation.*—A thin, anæmic, highly nervous woman, 25 years of age, was admitted December 9th, 1890, complaining of pain in the lower part of the abdomen, with loss of flesh and appetite dating from two months after her marriage in August, 1888. There had been no pregnancy. Menstruation which, before marriage, had been regular and almost painless, had since been irregular and preceded by considerable pain. The pain in the intermenstrual periods came on gradually, and was worse after standing and after exertion. It was felt not only in the abdomen but in the back and thighs, and was accompanied by increasing weakness and inability to do her work. She first noticed a vaginal discharge about nine months after her marriage; sometimes it was white, but more often yellow and offensive. She consulted a doctor who diagnosed displacement, whereupon she was treated for many months by different kinds of pessaries without benefit. In August, 1890, she consulted Dr. Gervis, who told her that her womb was not

displaced, but that she was suffering from inflammation. Dr. Gervis again saw her two days before her admission, and as she was in a less satisfactory condition than on the previous occasion, he advised her to come into St. Thomas's Hospital.

Patient had been unable to do any work for eight months, and for the last four months had been obliged to lie down almost entirely. For the past month she had been in bed.

No abdominal swelling was present; and no tumour or undue sense of resistance.

The uterus was moveable and inclined slightly to the left. There was a lobulated mass situated behind and to the right of it, with a well-marked sulcus between the lobes where they met behind the uterus. The vaginal roof on both sides was somewhat depressed by the pelvic mass.

The temperature was normal during the week following admission, except on December 15th and 16th, when it rose to 100°.

The diagnosis was enlarged and suppurating Fallopian tubes—double pyosalpinx, probably gonorrhœal.

The husband had suffered from gonorrhœa eight months before marriage, and believed himself, at the time of his marriage, to be cured.

Abdominal section having been proposed and agreed to, the operation was performed on December 17th, 1890.

The pelvis was filled by a large mass, consisting of the two Fallopian tubes, greatly enlarged, curved upon themselves, and universally adherent to the parts around, viz. to the uterus, to the broad ligaments, to each other, to omentum, to intestine, and to pelvic wall. The two tubes were separated and removed. The process of separation was prolonged and difficult. The tube in each case underwent a slight tear, permitting the escape of a little thick pus. The rents were quickly clamped. A good deal of oozing took place from the raw surfaces. The ovaries were not seen. Two processes of thickened

peritoneum were ligatured and removed, and an enlarged mesenteric gland the size of a pea was also removed for examination. No miliary tubercles were seen, but there were one or two suspicious subperitoneal thickenings on the intestine. One of these was suppurating and burst. The peritoneal cavity was abundantly douched with hot boracic solution and then sponged, and, after a glass drainage-tube had been inserted, the abdominal wound was closed. The operation lasted two hours.

Description of parts removed.—The right tube had a circumference of 4½ inches, its length was 4¼ inches; its breadth 1½ inches; its width when laid open 3 inches. The left tube had a circumference of 6½ inches; its length was 6 inches; its breadth 3 inches; its width when laid open 4 inches.

The surfaces were red and vascular and covered in places with shreds of adhesion. The contents of both consisted of very thick pus with some mucus. The mucous membrane was ulcerated throughout.

The mesenteric gland, on section, proved to contain either cheesy tubercle or inspissated pus. It was examined microscopically by Mr. Shattock, who reported that there was no trace of tubercular disease.

The collapse after the operation was very severe and prolonged, but after reaction had set in convalescence progressed without interruption. No suppuration occurred from the wound, and the temperature on no occasion exceeded 100·2°.

On January 9th, 1891, a vaginal examination showed the uterus central in position, the fundus adherent to the anterior abdominal wall. There was no swelling behind or to the right of the uterus; the base of the left broad ligament was thickened, slightly depressing the vaginal roof. For three or four days before the patient went home, there was a purulent vaginal discharge.

On March 6th the patient attended, looking and feeling well; she had gained flesh and had no pelvic pain or discomfort. Both posterior quarters of the pelvis were

FIG. 4.

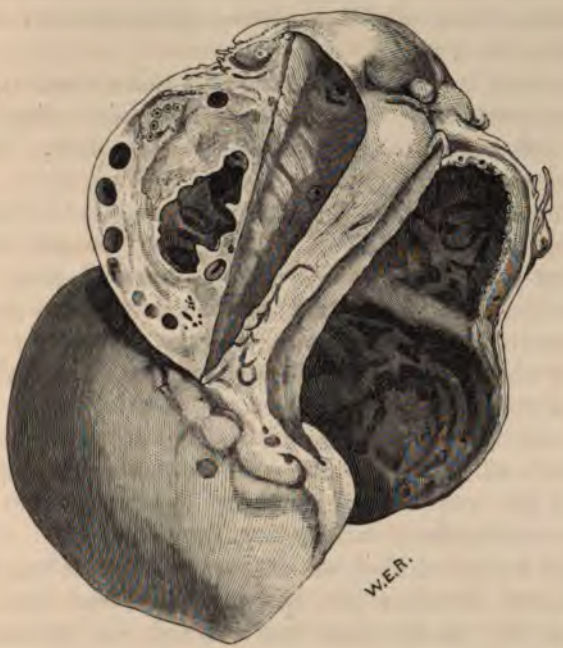


FIG. 3.

Pyosalpinx due to gonorrhœa. Both tubes enormously enlarged, and filled with pus. The walls greatly thickened by chronic inflammation. The irregular dilatations of the tubes are well seen. (Case 43.) (The engraving is reduced from a pencil drawing by Mr. W. E. Roth, taken after the specimen had been mounted for the St. Thomas's Hospital Museum. Three-fourths of the natural size.)

free. The vaginal mucous membrane was bright red and was covered with purulent discharge. The discharge issuing from the os uteri was clear and transparent. She had menstruated twice.

I last saw her January 5th, 1892, more than a year after the operation. She was free from pain, quite well, and in full work. She was still gaining flesh. Menstruation was quite regular.

This case was one of the most satisfactory in the series. The tubes were the largest I have ever yet met with; they simply consisted of large, tense bags of pus. All the evidence goes to show that the mischief was of gonorrhœal origin. I am glad to be able to report as to the patient's condition a year after the operation. The restoration to health is complete.

The rapidity of convalescence after so prolonged an operation, and notwithstanding the unavoidable escape of some of the purulent contents of the tubes into the pelvis, was singularly satisfactory.

It will be noted that on four out of the seven days that elapsed between the patient's admission and the operation the temperature was normal or subnormal. The bearing of this fact on the diagnosis of pelvic suppuration is obvious.

CASE 44. *Pelvic pain for eighteen months with progressive weakness and loss of flesh following an abortion; tender swellings in both posterior quarters of pelvis; disappearance of signs after a few weeks of hospital treatment; recurrence of pain immediately after discharge; readmission three months later after missing three menstrual periods; large sausage-shaped swelling in situation of right tube, with soft mass in Douglas's pouch; abdominal section: right tube distended with firm clot, soft clot protruding from open end of tube, continuous with mass of clot in pelvic cavity; left tube occluded; appendages removed; recovery interrupted by a pelvic abscess.*—A married woman, aged 25, was admitted into St. Thomas's Hospital on August 11th,

1890, on account of sickness, loss of flesh, and pain in the lower part of the abdomen, especially after standing or walking. Her symptoms dated from an abortion at the fifth month, a year and a half previously. She had been married seven years. A year after marriage she had a still-born child at seven months, and fourteen months later she had another child born at seven months. After this she had two abortions, each at five months. She remained in bed a fortnight after the latter of these abortions, and had to go back again to bed almost immediately, on account of the symptoms above enumerated. She had also suffered, ever since that time, from a thick yellow vaginal discharge, and from pain on micturition.

The patient's husband, a sailor, was in the surgical wards with a severe stricture of the urethra at the same time that she herself was in Adelaide Ward.

The abdomen was resonant throughout; no tumour was perceptible.

On August 19th, the patient was examined *per vaginam* under ether. The uterus was normal in size and position and was fairly moveable. A firm, elastic swelling was felt on the left side in the situation of the left Fallopian tube; the diameter of the swelling was estimated at ¾ inch. There was also a swelling on the right side of the pelvis, less clearly defined, thought to be the tube bent upon itself. In the posterior cul-de-sac there was a small, hard, moveable body to the left, and an ill-defined, irregular swelling high up to the right, probably the distal end of the right tube. The patient, who on admission looked worn and ill, had now greatly improved in appearance and suffered less pain.

On August 27th, the physical signs in the pelvis had altered remarkably for the better. The uterine appendages could be made out distinctly on each side, nearly of normal dimensions, those on the left being perhaps a little larger than on the right. There was no tenderness on either side. High up in Douglas's pouch there was a tender spot, but bimanually, with a finger in the rectum,

the fingers can be made nearly to meet behind the uterus.

The patient was discharged on August 30th.

On December 15th, she was readmitted, having been laid up ever since leaving the hospital. She had not menstruated since the first week in September.

There was a mass in the hypogastric region rising two inches above the symphysis, and having a breadth of two inches. There was no corresponding prominence of the abdomen. The cervix uteri was depressed, the body displaced forwards and anteflexed. Behind and to the right of the uterus was a swelling, even, soft and tender, extending outwards from the right cornu of the uterus and terminating posteriorly behind the supra-vaginal portion of the cervix on the left side. In the position of the left broad ligament, a thickened tube could be felt along its border. The mass in the retro-uterine pouch caused a depression of the posterior part of the vaginal roof.

Abdominal section was performed on December 18th. The right tube formed a sausage-shaped mass and was adherent to the surrounding parts. From its fimbriated end, which was open, protruded a large quantity of dark firm clot. The left tube was occluded at its distal end, but was otherwise normal. Both tubes were removed with the adjacent ovaries. The clots lying in the pelvis were cleared away, and the cavity was well douched.

Description of the parts removed.—The portion of the right tube removed was 4 inches long, and 5¾ inches in circumference. It was filled with old, firm, partly decolourised clot, closely adherent to its walls. From its open mouth a quantity of firm black clot projected. Enlarged veins, filled with clot, were seen beneath the mucous membrane.

The portion of the left tube removed was 2 inches in length and 2½ inches in circumference. Its distal end was occluded. Otherwise it was normal, except for a subperitoneal cyst.

A week after the operation, the patient began to com-

plain of pain in the pelvis and the temperature rose to 101°. On the eleventh day, there was some abdominal distension and a swelling could be felt *per vaginam,* to the left of the uterus. Two days later, the lower end of the wound was bulging. On passing a probe and exercising a little force, an abscess was reached, and about 4 fl. oz. of dark-brown highly offensive fluid, of putrid odour was evacuated. Next day the temperature had come down from a maximum of 102·4° to one of 98·2° and the pain had disappeared.

On the 18th January, 1891, the patient left the hospital with a normal temperature and a very slight discharge.

The sinus finally closed on February 7th.

On March 21st, three months after the operation, the patient attended, complaining of flushings of the face and of some pelvic pain during the last few days. There was a hard, tender spot at the site of the pedicle on the right side, and a small nodule of hardness on the left side of Douglas's pouch. The uterus was freely moveable.

The probable explanation of this case is that the attack of salpingitis and pelvic peritonitis from which the patient suffered in August left her with damaged appendages; that she became pregnant soon after leaving the hospital; that the gestation was tubal; and that it ended in tubal abortion. As no remains of an ovum were found, this view is, of course, hypothetical. Had it been placed beyond doubt that hæmatosalpinx was the result of conception, I should have classed the case under the head of extra-uterine gestation, and not included it in the present series.

Case 45. *Pain in the left iliac region with irregular and painful menstruation, and purulent intermenstrual discharge for two years; fixed swelling in left posterior quarter of pelvis size of small orange; less defined and more flaccid swelling on right side; abdominal section; pyosalpinx on left side; hydrosalpinx on right; removal of both tubes and both ovaries, the latter being normal but intimately involved*

in the adhesions; rapid recovery from the operation; persistence of pelvic pain; development of tense cyst in left broad ligament; removal by enucleation at King's College Hospital; pain still unrelieved.—A thin, delicate-looking, anæmic married woman, aged 32, was admitted into St. Thomas's Hospital, December 15th, 1890.

Her marriage took place in 1877. She has had one child, stillborn, a year after her marriage. The labour was normal, and she was able to get up in a fortnight, but she has never felt strong since.

Her present illness commenced two years ago with a yellow vaginal discharge, bearing-down, painful micturition, and pain in the left iliac region, felt most after standing and walking. From that time she has been continuously under medical treatment, using vaginal injections. There had been during the whole of the past two years irregular and painful menstruation. A week ago, she began to suffer from diarrhœa and a very severe shooting pain in the lower part of the abdomen, shooting down the left thigh. She was so weak and ill that she was attended by a doctor at her own home; and being no better after a few days came up to the hospital.

On admission, the treatment was directed to the dysmenorrhœa, which at that time was what she chiefly complained of. The cervical canal was dilated with graduated metallic bougies. This occasioned a good deal of pain, and the patient became faint and covered with perspiration. She complained of much pain in the left iliac region during the next few days, and on December 26th the resident in charge made a vaginal examination. He noted that the uterus was moveable and slightly retroverted; behind and to the left side of the uterus was a rounded elastic swelling equal in size to a small apple, slightly depressing the vaginal roof on the left side. Nothing abnormal was detected on the right side.

The temperature was usually normal; one day it was 99° and another 99·4°; these were the highest records since her admission.

FIG. 5.

Pyosalpinx (left).

FIG. 6.

Hydrosalpinx (right).

Pyosalpinx of left side and Hydrosalpinx of right in the same patient. The hydrosalpinx is secondary, being the result of occlusion of the distal end of the tube by peritonitis set up by the pyosalpinx on the opposite side. Natural size. (Case 45.)

On discovering the morbid condition of the left uterine appendages, the resident advised the patient to remain in the hospital until my return. She insisted, however, on going out and left the hospital the same day (December 26th).

On reaching home she was in great pain and was obliged to keep her bed.

She was readmitted on January 1st, 1891.

On January 3rd she was examined under an anæsthetic. The uterus was retroverted, directed to the right, and freely moveable. To the left and posteriorly was felt a distinct mass of the size of a tangerine orange; it was separated from the uterus by a sulcus. On the right side was a thickening of soft consistence like that of a coil of intestine, in the situation of the broad ligament.

Abdominal section was performed on January 8th. On the right side, covered by adherent omentum, was found a tense dark-coloured swelling, with thin walls, consisting of the right tube, doubled and coiled upon itself, occluded at its fimbriated end, and distended with clear fluid. The swelling lay partly in front of the uterus. Behind and adherent to it was the normal ovary. After separating the right tube and ovary from their adhesions, and removing them, the separation of the left appendages was proceded with. They formed an adherent mass which occupied the left posterior quarter of the pelvis and extended into the retro-uterine pouch. On bringing the mass into view it was found to consist of the normal ovary surrounded by the much elongated and twisted Fallopian tube which was of an opaque, yellowish-white colour, and distended with fluid, afterwards proved to be pus. Both tube and ovary were removed. No pus escaped into the pelvis during the operation. The pelvis was cleansed by sponging, a glass drainage-tube inserted and the abdominal wound closed.

The removed portion of the right tube was, when uncoiled, 4¼ inches long and an inch in diameter. The

mass, before being uncoiled, measured $2\frac{7}{8}$ inches in length and 2 inches in breadth.

The removed portion of the left tube was, when uncoiled, $5\frac{1}{2}$ inches long, and $\frac{3}{4}$ inch in diameter. The mass before being uncoiled measured $2\frac{3}{4}$ inches $\times$ $1\frac{3}{4}$ inches.

The fluid in the right tube was thin serum; that in the left was thick, yellow pus. The walls of the former were attenuated; those of the latter much thickened.

The patient made a rapid and uninterrupted recovery and left the hospital well on January 31st.

Her subsequent history is somewhat interesting.

On February 24th, she had improved considerably in health, but complained of some pain in the left iliac region. On vaginal examination a swelling equal in size to and closely simulating a tense and full-sized ovary was felt lying against the left lateral wall of the pelvis. Nothing abnormal was detected on the right side.

Had I not known that both ovaries had been removed, I should have regarded this little swelling as the left ovary, rendered tense by a small cyst. Anyway, I regarded it as of little or no importance, and did not propose to take any steps for its removal.

The patient, after a little time, applied at King's College Hospital still complaining of pain in the left side. She was admitted under the care of Dr. Hayes, who very courteously communicated with me. I gave him the history of the patient so far as I knew it. On July 15th, 1891, I received a letter from him informing me that he had that morning operated upon her, and removed a cyst, the size of a large hen's egg, from the left broad ligament. It was enucleated and removed without rupture.

On November 13th, Dr. Horrocks wrote to tell me that the patient had come under his care at Guy's Hospital, and to ask me if it was correct that I had removed one of her ovaries some months ago, and if so, what was the condition of the one left behind. I gave him the particulars of the previous operations. He has since informed me that my report prevented him from reopening the abdomen in

search for an ovary that had already been removed. He tells me that the patient declares that she has just as much pain as she had before any operation was performed.

Had I removed the appendages in this case merely on account of pain, the after-history just recorded would have obliged me to confess that the operation had failed in its object. Fortunately for my peace of mind, it was not so, and all that the after-history really shows is that a neurotic condition co-existed with a definite serious lesion, and that the removal of the part actually diseased has not cured the neurosis.

With reference to the fact of there being a pyosalpinx on one side and a hydrosalpinx on the other, I believe the explanation to be that the latter was a mere incident in the course of the pelvic peritonitis set up by the pyosalpinx, being as it were a retention-cyst due to the occlusion, by peritoneal adhesions, of the fimbriated end of the tube.

CASE 46. *Purulent vaginal discharge for four years; acute pelvic peritonitis after a debauch and exposure to wet; tender swelling in left side of pelvis displacing uterus to right; thickened tube in front of swelling; abdominal section: interstitial salpingitis on left side; blood-cyst of left ovary; left tube and ovary removed; right appendages normal; recovery.*—An unmarried girl, aged 23, a machinist, was admitted into St. Thomas's Hospital, January 3rd, 1891, on account of abdominal pain of three weeks' duration, and a yellow vaginal discharge that she had had for four years.

She stated that on the 12th December, 1890, and again on the following day, she had got her feet wet, and that in the afternoon of the second day she was attacked with "crampy" pains in the lower part of the abdomen. Two days later she took to her bed, and had remained there up to the time of her admission. A few days before this attack she went out for the evening with a discarded suitor, and had something to drink. On

awaking next morning she found herself very sore, and noticed some blood on her linen. She remembered that her companion had taken liberties with her, but was not aware that actual intercourse had taken place.

She was a pale, poorly-nourished girl, deeply marked by smallpox. Her skin was hot and dry; her temperature at 8 p.m. on the day of admission was 103·6° and at midnight 104·2°. She had no rash. The tongue was thickly coated with white fur. The abdomen was rigid but not distended; there was no tumour perceptible.

Next day she was much better. The temperature was 102·4° at 4 a.m.; 101° at 8 a.m.; 100·6° at noon; 99° at 4 p.m. and 101° at 8 p.m. After that, the temperature became gradually lower, and on January 10th it was normal.

A vaginal examination was made on January 9th, having been deferred on account of menstruation. The uterus lay a little to the right. A tender swelling the size of a small apple could be felt on the left side of the pelvis, causing some depression of the vaginal roof. In front of the swelling, immediately beneath the abdominal wall, was a tense band running horizontally outwards, thought to be the thickened Fallopian tube. Nothing abnormal was detected on the right side.

Abdominal section was performed on January 15th. The left tube was found thickened and adherent, embracing the ovary, enlarged to the size of a pigeon's egg. During the process of separation a cyst in the ovary was accidentally ruptured, giving exit to a small quantity of dark fluid blood. The left broad ligament was somewhat thickened by cellulitis. The left tube and ovary were removed. The right appendages were healthy. The pelvic cavity was sponged and the abdomen closed without drainage.

The portion of left tube removed, when uncoiled, measured 3¼ inches in length and ¾ inch in its greatest diameter. It walls were three times the normal thickness. The mucous membrane was healthy. The fimbriated end of the tube was open and there was no fluid of any kind in the canal.

The patient made an uninterrupted recovery and was discharged well on February 7th, both sides of the pelvis being free from abdominal swelling.

This was an example of interstitial salpingitis, probably of old date and due in the first instance to an endosalpingitis, which had now disappeared. It seems most likely, from the history, that the inflammation was of gonorrhœal origin, the acute attack of pelvic peritonitis, immediately preceding admission, being probably excited by the debauch she described, and aggravated by subsequent exposure to wet.

The main part of the swelling consisted of the cystic ovary, which had been the seat of a more or less recent hæmorrhage.

The strictly unilateral character of the inflammation was somewhat unusual.

CASE 47. *Sudden attack of pain in pelvis two months after confinement five years ago; recurrent attacks of a similar character ever since; continuous pain in left iliac region for a month, obliging patient for the most part to keep her bed; no menorrhagia or vaginal discharge; temperature normal; large mass occupying left posterior quarter of pelvis; indistinct thickening on right side; no depression of vaginal roof; abdominal section: pelvic contents matted by adhesions; outer half of left tube distended, and filled with clot continuous with a small intraperitoneal hæmatocele; hydrosalpinx on right side; ovaries cystic; ovaries and tubes removed; recovery.*—A married woman, aged 31, employed as a charwoman, was admitted into St. Thomas's Hospital January 8th, 1891.

The catamenia had not commenced until the age of seventeen and were habitually scanty. The patient married at twenty-four, and had one child at full term a year afterwards. She recovered well from the confinement, but two months afterwards she was suddenly seized whilst walking with pain in the lower part of the abdomen, especially on the left side. The pain was very severe and

extended into the thighs. It soon disappeared, but, ever since, patient has been subject, especially after over-exertion, to attacks of pain of a similar character, accompanied with headache, nausea and faintness. The attacks do not appear to have had any special connection with the catamenia. During the last month they have become more frequent, occurring every two or three days, and patient has also suffered from continuous aching pain in the left iliac region and in the back. She went to bed of her own accord, and then sent for her doctor, under whose care she has been for three weeks. She could not remain altogether in bed, as she had to attend to her sick husband, but she was quite unable to follow her usual avocation. She has been losing flesh for the past six months. There has never been any menorrhagia or vaginal discharge.

Her appearance is that of a woman of healthy constitution; she has a fair complexion; a good colour in her cheeks and a cheerful disposition. Her temperature is normal. On vaginal examination, there is felt a large mass directly continuous with the left cornu of the uterus and filling the left posterior quarter of the pelvis. The mass is hard and nodulated posteriorly and terminates behind the uterus in Douglas's pouch. There is no depression of the left vaginal fornix. There is some ill-defined thickening on the right side of the uterus. The right vaginal fornix is not encroached upon. The uterus is normal in length, anteflexed, and displaced to the right of the median line. On withdrawing the examining fingers, they are seen to be stained with fluid of a brownish-red colour, evidently altered blood.

Abdominal section was performed on January 22nd, 1891. Both tubes were dilated and universally adherent, their distal ends lying firmly matted in the retro-uterine pouch. In separating the left tube, the inner half of which was of normal size, the outer half expanded in a funnel-shaped form, a small intraperitoneal hæmatocele was opened, containing firm, dark clot. Precisely similar clot filled the expanded outer half of the tube, and pro-

truded from its dilated extremity into the hæmatocele, which was hemmed in on all sides by adhesions and was about equal in size to a Tangerine orange.

The right tube and ovary being involved in the mass behind the uterus, were now freed from their adhesions to allow of the more complete separation of the left tube. Both ovaries were enlarged and cystic, being equal in size to a pigeon's egg. The left tube and ovary were now removed. The left tube on being laid open measured ¼ inch across at its narrower portion, and an inch at its dilated extremity.

The right tube was dilated and occluded, forming a hydrosalpinx. After removal it measured while still unopened 2½ inches in length, 1½ inches in its greatest breadth. Its closed end measured 1 inch × 1½ inches.

On a coil of small intestine which was adherent in Douglas's pouch, there was a patch of adherent blood-clot about the size of a sixpence.

The peritoneal cavity was flushed, a drainage-tube inserted and the abdominal wound closed.

The patient made a good recovery. On the thirteenth day a little pus was noticed on the dressing, and on making gentle pressure a quantity of inoffensive pus escaped from the lower angle of the wound. There was a slight discharge for three or four days, and the wound then healed. The patient left the hospital well on the 25th of February. There were some irregular hard lumps to be felt behind and to the left of the cervix, evidently connected with the pedicle on that side. They gave no pain and were not tender.

The order of pathological events in this case is not easy to trace. From the history and physical signs I expected to find a pyosalpinx on the left side. The swelling consisted instead of a hæmatosalpinx communicating with a small hæmatocele. Whether this was an early tubal abortion is matter of conjecture. No evidence of the remains of an ovum was detected. The hydrosalpinx was evidently secondary to the peritonitis, due to the sealing up

of the fimbriated end of the right tube by inflammation, and the formation of a quasi-retention cyst.

CASE 48. *Pain in right iliac region and recurrent pelvic peritonitis dating from confinement three years ago; bursting of an abscess* per vaginam *eight months ago; persistent discharge of pus subsequently; acute symptoms during week preceding admission; mass behind and to right of uterus with physical signs of cellulitis and sinus in upper part of posterior vaginal wall; diagnosis of abscess connected with suppurative inflammation of right uterine appendages; abdominal section: pelvic contents matted; right ovary enlarged and containing numerous cysts, many of them filled with pus; fistulous communication between one of these and vagina; removal; recovery.*—A young married woman, aged 22, employed as a still-room maid, was admitted into St. Thomas's Hospital January 15th, 1891, on account of severe pain in the right iliac region and other symptoms.

Her marriage took place when she was eighteen. She was confined of her first and only child a year subsequently, and has never been quite well since. She had a greenish discharge for about two months after the labour, and suffered from time to time from pain in the right iliac region. This pain varied in intensity but never entirely disappeared, and twelve months ago she went into the Canterbury Hospital. She was there for a month and states that she underwent an operation of some kind. She remained well after this for three months, when the pain having returned, she one day whilst seated quietly in a chair, felt a sudden flow of discharge from the vagina. The discharge was thick, fœtid, yellow in colour, and very profuse. For two or three weeks the pain was easier, but it has never wholly disappeared. The discharge has continued with intervals to the present time, but since the first day has had no ill odour. A week ago she was suddenly seized in the night with acute pain in the right iliac region. The pain was relieved by poultic-

ing, but the patient has since been quite unable to get about or resume her work.

The patient is in fairly good condition but anæmic. The temperature is normal.

On vaginal examination the uterus was found in normal position, the cervix was fixed by adhesions posteriorly. The pouch of Douglas was filled with a hard, rounded mass, extending further to the right side than to the left. The vaginal roof on the right side was slightly depressed. There was dense hardness in the tissues at the posterior vaginal reflection and immediately in front of the cervix; in the latter position simulating acute anteflexion of the uterus. At the upper part of the posterior vaginal wall was a small opening, the size of a pea with indurated margins.

The diagnosis was chronic abscess in Douglas's pouch, communicating with the vagina, and connected with suppurative inflammation of the right uterine appendages.

Abdominal section was performed January 29th, 1891. The omentum was adherent to the pelvis. The pelvic viscera were densely matted by old adhesions; the broad ligaments were hard, rigid, and thickened. A loop of intestine and a band of omentum were adherent to the anterior abdominal wall just above Poupart's ligament on the right side. A soft, oblong mass was separated from its adhesions to the posterior aspect of the corpus uteri. This mass dipped down into Douglas's pouch, where its dense adhesions were separated with difficulty. The long axis of the mass was directed downwards. When fully separated and brought into view, it was found to be connected with the right broad ligament, and to consist of the much enlarged right ovary with the Fallopian tube stretched over and adherent to it. Both were removed. The appendages of the opposite side were then separated; during the process rupture of the ovary took place, a dark blood-clot escaping. The tube and ovary were removed, the greater part of the ovary remaining as part of the pedicle. The peritoneum was douched, and a glass drainage-tube

introduced before closing the wound. A quantity of pus having flowed from the vagina during the operation, a vaginal douche of solution of corrosive sublimate, 1 in 5000 was administered. The operation lasted an hour and a half.

Description of parts removed.—The right ovary measured $2\frac{1}{4}$ inches by $1\frac{3}{4}$ inches by 1 inch. It consisted, on section, of a number of inflamed cysts, many of them full of pus, and all with hyperæmic walls. An opening, large enough to admit a goose-quill, and surrounded by granulation-tissue, was found on that part of the surface of the ovary which had lain most deeply in the pelvis. This opening communicated directly with one of the abscess-cavities in the substance of the ovary, and pus was seen exuding from it.

The right tube was attached to the ovary and was elongated. On section its lining membrane was found healthy and its canal empty.

The left Fallopian tube was beaded from kinking, but was otherwise healthy. No ovarian tissue was found in the parts removed on the left side.

The highest temperature recorded during the patient's convalescence was 99·8°. She was restless during the night of the 30th, and vomited several times. After this there was no vomiting. The drainage-tube was removed in forty-eight hours. Menstruation commenced February 1st and lasted five days. Some cystitis appeared on February 3rd but soon subsided under treatment. An abscess formed in the abdominal wall near the upper part of the wound, and burst on February 8th.

On February 27th a vaginal examination was made. There was a smooth, firm, tender swelling to the left of the uterus; none in Douglas's pouch or in the right side of the pelvis. There was a dimple in the post-vaginal wall at the site of the fistula.

At the beginning of March the patient again menstruated, and on March 7th she left the hospital well.

On November 15th, 1891, the patient was readmitted,

complaining of attacks of pain commencing in the right iliac region, lasting severely for a few hours and then gradually diminishing until they pass off in the course of about a week. She has had four such attacks; the first in June, the second in July, the third in September, and the last just before her readmission. There is vomiting during the first two days of each attack. The attacks have no connection with menstruation, which has been regular. Between the attacks the patient has felt well and strong. Temperature is normal. On vaginal examination no swelling could be detected on either side of the pelvis; the uterus was fairly moveable. There was a little tenderness on the right side.

This case exemplifies very strikingly the advantage of dealing with chronic abscess in the deeper part of the pelvis from above rather than from below. Had the treatment here consisted of enlarging the sinus in the posterior wall of the vagina and draining the abscess-cavity thus laid open, there would still have been numerous other abscesses to be reckoned with, that such an incision could not have reached. The opening found on the surface of the ovary was no doubt the aperture of communication with the vagina, due to ulceration of the wall of the cyst and of the parts to which it was adherent. The opening had been insufficient to allow of the complete emptying of the abscess; hence the persistent vaginal discharge. The absence of pyrexia before operation, notwithstanding the condition of the right ovary, is noteworthy, as also is the freedom from pelvic suppuration and sepsis during the recovery, considering that some soiling of the pelvis during the removal of the ovary must almost certainly have occurred.

The attacks of pain described by the patient as having occurred at intervals since the operation are probably to be explained by intestinal or omental adhesions at the site of operation.

CASE 49. *Pain in joints and high temperature for six*

weeks, regarded as due to acute rheumatism; discovery of purulent vaginal discharge; development of abdominal pain; patient found to be suffering from acute gonorrhœa; both sides of pelvis occupied by irregular swellings, right tube traced distinctly, enlarged and tortuous, left less distinct; abdominal section: pelvic contents matted; intra-peritoneal abscess in Douglas's pouch fed by the open-mouthed suppurating Fallopian tubes; removal of tubes and ovaries; recovery without suppuration; immediate disappearance of pyrexia and other pyæmic symptoms.—An unmarried girl, aged 24, a chambermaid at an hotel, was admitted into St. Thomas's Hospital, December 15th, 1890, under the care of Dr. Payne, for what appeared at first to be an attack of acute rheumatism. There had been pains in the right wrist for three days, and in the back of the neck, the left shoulder, left elbow, left leg and left knee for two days.

On admission the tongue was coated with a white fur; the temperature 102·2° to 102·8°; the pulse 120. There were coarse rhonchi heard over the upper part of the left lung and moist sounds near the apex of the right lung behind. The heart sounds were normal. The right wrist, left shoulder, left knee, and left tarso-metatarsal joints were tender and painful, without obvious effusion or any œdema or redness of the superjacent skin.

On December 22nd there was no pain or stiffness except in the left knee, which was stiff, swollen, and tender. The temperature has varied between 98·2° and 102°, the maximum record on the 16th having been 101·4°, on the 17th, 101·6°; on the 18th, 100·8°; on the 19th, 99·6°; on the 20th, 99·4°; on the 21st, 102°; and on the 22nd, 101·2°.

On January 15th, 1891, the temperature was 102·8°. The lungs were resonant everywhere, the breath-sounds normal; no unhealthy signs at apices; slight cough; no expectoration. Bowels regular. Tongue fairly clean. No tenderness about any joint. Left knee slightly

swollen and kept in a position of flexion, extension causing pain.

On January 18th a vaginal discharge was noticed; no abdominal pain; temperature 99·4° to 104·4°.

On January 27th the patient having complained during the past three days of pain in the lower part of the abdomen with headache, sickness, and shivering, a suspicion, already existing, that the case was not one of ordinary rheumatism, was strengthened, and I was asked to see her and make a pelvic examination.

I reported that she was suffering from gonorrhœa and pelvic inflammation, and she was accordingly transferred, the same day, to Adelaide Ward, under my care.

The temperature since the last note had been as follows—(January 19th) 102° to 102·8°; (20th) 99° to 102·8°; (21st) 97° to 99°; (22nd) 97·6° to 102·2°; (23rd) 100·6° to 103·4°; (24th) 99·8° to 102°; (25th) 97° to 99·8°; (26th) 98·4° to 100·4°; (27th) 98° to 102·6°.

On being questioned with a view to determine if possible the date of infection, the patient stated that the only time she had been exposed to such a risk was on November 4th, 1890, when a stranger staying in the hotel took forcible advantage of her, and was, in consequence, dismissed from the hotel by the manager, to whom she reported the occurrence the same evening. During the five weeks she afterwards remained in her situation she had some pain on micturition and a vaginal discharge. She left her situation on December 11th. On awaking the following morning she for the first time felt pain in the right wrist. The remaining particulars of her illness have already been given.

On examination (after her removal to Adelaide Ward) there was found some pus on the vulva, and there was a copious flow of pus and mucus from the vagina on introducing the finger. There was slight redness at the posterior margin of the vaginal orifice; no marked redness or swelling of the *meatus urinarius*, but pus issued from the *meatus* on making pressure along the urethra. There

was no abnormal redness or swelling of the vaginal mucous membrane, or of the orifices of the ducts of Bartholin's glands. No pus exuded from the latter on pressure. Through the speculum some blood and mucus were seen issuing from the *os uteri*, on which was a broad ring of catarrhal erosion. Bimanually, there was felt in the right posterior quarter of the pelvis a firm resisting mass; and an elongated tube-like swelling could be felt passing outwards from the right cornu of the uterus, then turning downwards and backwards behind the uterus, forming a distinct cystic swelling in Douglas's pouch. Some thickening could also be felt in the left side of the pelvis, but of a less defined character. The uterus was inclined to the right.

The diagnosis was acute gonorrhœa, with pyosalpinx, pelvic peritonitis, and pyæmia.

Abdominal section having been proposed and agreed to, the operation was performed February 5th, 1891. The pelvic viscera were matted together by very firm adhesions behind and on each side of the uterus. On separating the tangled mass from the back of the *corpus uteri* some thick, inodorous pus made its escape, the finger passing into a cavity the size of a Tangerine orange. This cavity was the pouch of Douglas, walled in by the uterus, coils of intestine, and the uterine appendages.

The right appendages were now separated from their adhesions and brought into view. Closely adherent to them was the thickened vermiform appendix. On separating it the tip was ragged and bleeding; the distal end, to the extent of an inch, was therefore ligatured and removed. The tube and ovary were then removed. As there was some pus in the divided end of the tube in the stump, the stump was cauterised. The removed portion of the tube was thickened and full of pus, but showed no ulceration; its fimbriated end was widely open, allowing the contents to exude into the pelvic cavity. For some time the left appendages could not be found; they were

at length discovered, behind, adherent to, and wrapped round by the broad ligament. On removal the tube was found to be in a similar condition to its fellow on the opposite side, namely, thickened and full of pus, with the fimbriated end open, allowing the escape of its contents into the peritoneal cavity. Loops of thickened intestine were also adherent in the pelvis; for the most part they were left undisturbed.

The pelvis and abdominal cavity were well douched, a glass drainage-tube inserted, and the abdomen closed. The length of the incision was 2¾ inches. The duration of the operation, one hour and three quarters.

The patient made an excellent recovery. She was only once sick. The drainage-tube was removed in forty-eight hours. The temperature on the evening after the operation was 101·8°, after that it was generally normal and never reached 100°. There was no suppuration from the wound. Twelve days after the operation the patient was able to lie on the couch. She left the hospital well on the 28th March, the last three or four weeks having been devoted to treating the gonorrhœal inflammation of the cervix, vagina, &c.

The portion of right tube removed measured 3½ inches in length and was bent at a right angle; its widest diameter (at the bend) was ¾ inch. The portion of left tube removed was 2¾ inches in length, and was also bent at a right angle, with a diameter of ¾ inch at the bend. Otherwise the left tube was smaller than the right.

This case may be commended to the consideration of those who disbelieve in the gonorrhœal origin of purulent salpingitis and general pelvic inflammation. The clinical evidence here is almost as complete as could be wished. The case is also an answer to those who recommend a long trial of rest and palliative treatment before operating. Nothing could have been gained here by waiting.

The manner in which the parts healed without a trace of suppuration, notwithstanding the extent of suppuration at the time of the operation and the prolonged manipula-

tions that were required, is very noteworthy, as also is the rapid disappearance of the pyæmic symptoms.

CASE 50. *Pelvic pain with diarrhœa and hæmorrhage from bowels, alternating with constipation for six weeks, attributed to getting wet; admission to medical wards as a case of typhoid; on vaginal examination an irregular, long, smooth swelling found in left side of pelvis with some indistinct thickening on right; history of impure connection and vaginal discharge; diagnosis of left pyosalpinx; abdominal section: left pyosalpinx communicating by an ulcerated opening with a suppurating ovarian cyst; right tube thickened and occluded; both tubes and ovaries removed; rapid recovery.*—A servant girl, aged 19, single, was admitted into the medical wards of St. Thomas's Hospital February 10th, 1881, supposed to be suffering from enteric fever.

She had been wet through on the 3rd of January, and during the night had been seized with severe pain in the right iliac region. For a week she tried to get through part of her work, but from that time had been obliged to be in bed. Three weeks before admission there was noticed a considerable quantity of blood in the motions on two successive days. She was at that time suffering from diarrhœa. For the fortnight before admission the bowels were constipated. On the Friday and Monday before admission there had again been blood in the motions, but less in quantity. During the whole of the past six weeks there have been headache, loss of flesh, and pains in the limbs. The patient has also had a yellow discharge from the vagina.

On February 18th she complained of a good deal of pain in the lower part of the abdomen, thighs, and back, and lay on her back with the knees drawn up. The temperature had varied since admission from normal to 100·8°.

I was asked to see and examine her the following day. The uterus was retroverted and its mobility impaired.

There was an irregular but somewhat elongated and smooth swelling in the left posterior quarter of the pelvis, and some less distinct thickening in the right. I found on enquiry that the girl had frequently had sexual intercourse between June, 1889, and the middle of 1890, but that nothing of the kind had taken place after the latter date until a week before the commencement of her present illness. I gave it as my opinion that the patient was suffering from pyosalpinx on the left side and some thickening of the right tube, with secondary peritonitis, the disease being either gonorrhœal or tubercular. She was thereupon transferred to Adelaide Ward on February 21st. On the 24th an examination was made under ether, with the result of confirming the opinion already given.

Abdominal section was performed on February 26th.

In the left posterior quarter of pelvis was found a thin-walled, not very tense, soft, cystic swelling, with tube attached to, if not forming part of it. The tumour was easily separated, the adhesions, though universal, being slight in character and recent. Notwithstanding the gentlest handling, the cyst-wall gave way and a purulent discharge welled up. On bringing the mass into view it was found to be a suppurating cyst of the left ovary, communicating by an ulcerated opening the size of a pea with the Fallopian tube, which was thickened and contained pus amongst its inflamed rugæ. The right tube was enlarged, occluded, and adherent; the right ovary was normal. Both tubes and both ovaries were removed. The peritoneal cavity was douched, a drainage-tube inserted, and the abdominal wound closed. There was a good deal of oozing from separated adhesions, the arresting of which occupied a good deal of time, and the operation lasted an hour and a half.

The patient made a rapid recovery and left the hospital well on April 1st. The suture-tracks in the abdominal wound suppurated, which is an unusual occurrence, but there was no purulent discharge from the pelvis. A metrostaxis commenced on the day of operation and lasted

until March 5th, after which there was an offensive vaginal discharge for several days.

The patient was sent to a convalescent home; but she was dismissed from there for bad conduct, and I have heard nothing of her since.

The case is of special interest as showing the communication between tube and ovary in actual process of formation. There was probably ulcerative salpingitis in the first instance with adhesion to a cystic ovary, followed by perforation of tube and cyst-wall and infection of contents of the cyst.

Part III.

No classification of such a series of cases as that here recorded can be altogether free from objection; but the following table will, I trust, be found fairly satisfactory. In order to prevent unnecessary repetition I may premise that in all the cases but one there was marked pelvic peritonitis. The exception was Case 32, in which I made a wrong diagnosis, mistaking for inflamed and adherent appendages a retroflexed uterus, enlarged and distorted from fibroids, and incarcerated beneath the sacro-vertebral promontory. I have included the case here because admission to this series has been determined by the object for which the operation was undertaken, and not by what was found. Setting this case aside then for the present, the conditions causing or associated with the peritonitis in the remaining 49 cases were as follows:

Tubercular disease of Fallopian tube (Case 21 and 29)	2
Suppurating salpingitis (Cases 7, 9, 14, 15, 16, 17, 18, 20, 25, 27, 28, 30, 33, 36, 37, 40, 43, 45, 49, 50)	20
Non-suppurating salpingitis, including six cases complicated with suppurating ovarian cyst (Cases 1, 2, 4, 12, 19, 24, 26, 35, 39, 41, 46, 48)	12
Pelvic abscess, seat undetermined (Cases 5, 6, 13)	3
Suppurating, pedunculated, retro-peritoneal cyst (Case 10)	1

Abscess in abdominal wall (? tubercular) with masses of enlarged pelvic glands and miliary tubercle of peritoneum (Case 42)		1
Hæmatocele (Cases 23 and 31)		2
Hæmatosalpinx with hæmatocele (Cases 34, 44, and 47)		3
Hæmatoma of broad ligament (Case 22)		1
Broad ligament cysts—		
(*a*) With ovaritis (Cases 1 and 38)	2	
(*b*) With hydrosalpinx (Case 3)	1	
	—	3
Encysted serous effusion (Case 8)		1
		49

The cases of suppurating salpingitis may be subdivided as follows :

(*a*) With occlusion (pyosalpinx) (Cases 7, 15, 30, 40, 43)	5
(*b*) With distal end open (Cases 16 and 36)	2
(*c*) With suppurative disease of the ovary (Case 37)	1
(*d*) With a direct communication between the tube and a suppurating cyst of the adjacent ovary (suppurating tubo-ovarian cyst) (Cases 17, 18, 20, 25, 33, 50)	6
(*e*) With non-suppurating cystic ovary (Case 27)	1
(*f*) With suppurating hæmatocele (Case 14)	1
(*g*) With hydrosalpinx (Cases 9 and 45)	2
(*h*) With intra-peritoneal abscess (Cases 28 and 49	2
	20

The cases of non-suppurating salpingitis may be classified into—

(*a*) Uncomplicated cases (Cases 19 and 24)	2
(*b*) With suppurating ovarian cyst (Cases 4, 12, 26, 39, 41, 48)	6
(*c*) With non-suppurating ovarian cyst (Cases 35 and 46)	2
(*d*) With hæmatosalpinx and hæmorrhagic ovarian cyst (Case 2)	1
(*e*) With double hæmatocele (Case 11)	1
	12

Number of cases in which there was pelvic suppuration.—Perhaps the most interesting point brought out, on analysing these cases, is the large proportion in which there was some form of pelvic suppuration. Thus, out of the total number of fifty, this condition existed in no fewer

than thirty, *i. e.*, in 60 per cent. With regard to the seat of the suppuration, in thirteen cases it was the Fallopian tube alone; in six cases it was the ovary alone; while in seven cases it was both tube and ovary, the two being, in six of these, in direct communication. In the remaining four cases the seat of suppuration was either not accurately determined, or, as in Case 10, did not involve either tube or ovary. In no instance was there evidence of the suppuration being in the pelvic connective tissue.

Origin of the suppuration.—I hope at some future time to discuss more fully than is here possible, the etiology of suppurative inflammation of the uterine appendages. In the meantime I may say that, the larger my experience, the less disposed I am to attribute to catarrh anything like the share it is popularly supposed to have, in causing pelvic inflammation. Even cases like Nos. 27 and 36, where the evidence in favour of a catarrhal origin seems at first sight indisputable, prove on further investigation to be chronic cases, in which exposure has merely had the effect of producing an acute exacerbation. The real causes of pelvic inflammation in the great majority of cases will, I believe, eventually prove to be sepsis, gonorrhœa, and perhaps tubercle. Amongst the cases here recorded, the evidence of gonorrhœal origin is very strong in a good many cases, and in at least five cases (Nos. 9, 14, 15, 43 and 49) seems irresistible.

Mortality.—The total number of fatal cases was nine, a mortality of 18 per cent. The cause of death in four cases (3, 9, 10, 16) was peritonitis, no doubt septic; in one case (11) the only lesion discovered at the autopsy was acute nephritis; in another case the patient had intestinal obstruction; an artificial anus was made, and death occurred next day from peritonitis. I have little doubt that the obstruction was really due to septic peritonitis. In the remaining three cases no *post-mortem* examination was made. One of the patients (38) died suddenly from collapse on the eleventh day; the other died with symptoms

of septic peritonitis. Of the patients who died, one was a case of tubercular disease of the Fallopian tubes; two were cases of purulent salpingitis; two were cases of suppurating tubo-ovarian cyst; two were cases of very chronic pelvic peritonitis, in which very little was removed at the operation; one was a case of double salpingitis, non-purulent, with a small hæmatocele at the open mouth of each tube; and one was a case of hæmorrhagic retro-peritoneal cyst, with abscesses in its walls.

Nature of operation.—The operation involved the complete removal of the appendages in 16 cases, and their partial removal in 23. In the remaining 11 cases none of the appendages was removed. Of the 16 complete removals, 15 recovered; of the 23 partial removals, 17 recovered; of the 11 patients in whom neither tube nor ovary was removed, 9 recovered.

Flushing of peritoneum.—The peritoneal cavity was flushed with hot solution of boric acid in 22 cases, 18 of which recovered.

Drainage.—The drainage-tube was used in 47 out of the 50 cases. In 38 cases, the glass drainage-tube alone was employed; the length of time it was kept in was as follows:—Twenty-four hours in 14 cases; thirty-six hours in 4 cases; forty-eight hours in 14 cases; sixty hours in 4 cases; seventy-two hours in 2 cases.

In 7 cases an india-rubber tube was substituted for the glass tube; at the end of twenty-four hours in 1 case, forty-eight hours in 4 cases, and seventy-two hours in 2 cases.

In 2 cases india-rubber tubes were employed throughout.

Fæcal fistula.—In 2 cases, a fæcal fistula formed after the operation; spontaneous closure took place in each instance.

Pain.—In the large majority of the cases pain was permanently relieved. Almost all the patients who recovered have returned to the hospital to report themselves at more or less prolonged intervals after their discharge. Only five of these have complained of pelvic pain.

Sinus at lower angle of wound.—In 6 cases it is noted that a sinus existed when the patient went home; in only 2 of these has healing failed to take place since (Nos. 7 and 41).

Hernia at site of abdominal wound.—Four patients have developed a hernia at the line of incision. One of them had had the abdomen opened twice.

On the whole, the rapidity of convalescence and freedom from unpleasant sequelæ have been remarkable. Of the forty-one patients who recovered, twenty-four escaped without the slightest suppuration (except in one or two instances in the suture-tracks), including no fewer than nine cases of suppurative disease of the tubes, two cases of suppurating ovarian cyst with salpingitis, and two cases of suppurating tubo-ovarian cyst.

Hæmorrhage as a symptom of tubal inflammation.—The effect of tubal inflammation upon the menstrual function is illustrated by the following figures. Out of the thirty-two cases of salpingitis included in the present series, twelve had more or less continuous hæmorrhage, five had amenorrhœa, three had dysmenorrhœa, and twelve menstruated normally. Dividing the cases into purulent and non-purulent salpingitis, we find that amongst twenty cases of purulent salpingitis, eight had metrorrhagia, three had amenorrhœa, three had dysmenorrhœa, and six had no disturbance of menstruation. Of the twelve cases of non-purulent salpingitis, complicated and uncomplicated, four had metrorrhagia, two had amenorrhœa, whilst in six there was no interference with the menstrual function. So far, therefore, as the small number of cases here recorded enables us to judge, irregular uterine hæmorrhage is a symptom of salpingitis in rather more than a third of the cases, or to speak more precisely, in two-fifths of the purulent cases, and in one-third of the non-purulent. The hæmorrhage is seldom profuse, and appears never to be in itself a source of danger.

The temperature as a guide to the diagnosis of pelvic suppuration.—It is generally held that if the temperature

is not raised, it is a fairly certain indication that there is no suppuration. The following figures show that this test is unreliable. In twelve of the thirty cases in which suppuration was present the temperature before operation was absolutely normal. In one case there was a single rise of temperature (after examination) to 103° ; in another case the temperature only twice exceeded the normal during a period of six weeks ; in a third case there was but a single rise of temperature in ten days, and that only to 100° ; in a fourth case, during a period of eight days, the temperature only on one occasion exceeded 100°, and in a fifth case the highest record was 100·4°. In twelve cases the temperature was distinctly febrile. Of one case I have no note of the temperature before operation. A much more valuable guide to the diagnosis of the presence of pus in the pelvis is the recurrence, on comparatively slight provocation or without ostensible provocation of any kind, of more or less severe attacks of pelvic peritonitis, after apparent recovery from the first attack. What happens in such cases is that the pus becomes enclosed, and for a time gives no sign of its presence. Then comes some slight exciting cause, and the purulent collection becomes the centre of an acute and wide-spread inflammation. Or, in the absence of such exciting cause, the tissues enclosing the pus undergo ulceration, until at last perforation occurs, and the pus, after having been imprisoned, it may be for months or years, is set free in the pelvis or escapes into some neighbouring viscus or canal. I do not propose in this paper to enter into an elaborate defence of the operation of which it treats. My object is to present a statement of facts, and to let them speak for themselves. The operations here described were not "done in a corner." With few exceptions they were performed at St. Thomas's Hospital before the resident officers and students, and any colleagues or other visitors who cared to witness them. Being a new departure, they were watched with keen interest. The parts removed were submitted, while still fresh,

to the curator of the hospital museum, Mr. Shattock, who examined them then and there, and is responsible for the description recorded in the notes. It is scarcely possible to have more complete guarantees against reckless surgery or inaccuracy of statement. It would be absurd to maintain that every case in such a long series was a suitable one for operation; but the instances in which I had reason to regret having operated were exceedingly few, and were much less numerous than those in which I regretted not having operated sooner. In the remarks appended to the individual cases, I have endeavoured honestly to confess my mistakes. The operations here recorded have nothing in common with those which are undertaken merely for the relief of pelvic pain without obvious lesion. Of these latter I have no experience. The only instances in which I have removed the normal tubes and ovaries are those in which the operation has been performed for uterine fibroids. I make this statement in order to limit any discussion that may follow the reading of this paper, to the operation with which it deals, an operation which I believe to be founded on sound surgical principles, and destined to take its place amongst the established operations of modern surgery.

I shall be disappointed, however, if this communication is regarded merely as a plea for more frequent recourse to surgical treatment. I trust it may also have some value as a contribution to our knowledge of the diagnosis and pathology of some of the most common diseases of the female pelvic organs, especially tubal disease and its numerous and very serious complications.

* * * * * *

Postscript (August 15th, 1892).—During the eighteen months that have elapsed since February, 1891, when the above paper was commenced, I have completed a second series of fifty operations of a similar kind. In this series the mortality has been less than half that of the first fifty, nine deaths having occurred in the first fifty, and four in the second. Amongst the last twenty-five cases operated

upon, not one has proved fatal. It is therefore, I think, fair to say that the mortality in this, as in most serious operations, tends to diminish with increased experience. Of the four patients in whom the operation proved fatal, at least three would have died within a very short time if they had not been operated upon; the operation was too late to save them.

The fatal cases included—

1 suppurating ovarian cyst.
1 suppurating tubo-ovarian cyst.
1 tubercle of ovary.
1 pelvic abscess of uncertain origin.

The details of the second fifty cases cannot of course be given without unduly prolonging an already too long paper. It may be interesting, however, to append a classified list of them.

Tubercular disease of Fallopian tube	1
Suppurating salpingitis (including two cases of suppurating ovarian cyst, and two of suppurating tubo-ovarian cyst)	20
Non-suppurating salpingitis (complicated in four cases by suppurating ovarian cyst)	6
Suppurating subperitoneal cyst	1
Pelvic abscess, seat uncertain	3
Tubercular disease of ovary, with suppuration	3
Suppurating ovarian cyst (complicated in one instance by inflammation of the vermiform appendix)	4
Hydrosalpinx	1
Serous cyst of ovarian ligament	1
Inflamed ovarian cyst	1
Dermoid cyst of ovary	1
Perityphlitis, after delivery, with suppuration	1
Tubercular peritonitis	1
Malignant disease of pelvis	1
Hæmatosalpinx	4
Unruptured tubal gestation, with apoplectic ovum	1
	50

The specimens from eleven of these cases have been exhibited to this Society, and descriptions, accompanied with a brief clinical history, have been printed in its 'Transac-

tions.'* Six other of the cases have been published in detail in the 'Lancet.'†

* A series of seven cases of Pyosalpinx, shown November 4th, 1891. Two cases of Tubal Gestation with Apoplectic Ovum, shown May and June, 1892. Two cases of Pyosalpinx, shown July, 1892.

† See "Mirror of Hospital Practice" in 'Lancet' for July 2nd and 9th, 1892. "Six cases of Abdominal Section for Recurrent Pelvic Peritonitis."

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness
1	A. McC.	Dressmaker, Manchester	25 W.	1885 May 13	St. Mary's Hospital, Manchester	Anæmia; emaciation; constant pain in left iliac region; inability to sit, and hence to follow occupation	6 years
2	M. M.	Winder in cotton mill	26 M.	Oct. 7	"	Anæmia; emaciation; continuous pain in lower part of abdomen, especially on right side; metrorrhagia (two months)	7 years
3	J. R.	Housekeeper, Manchester	35 M.	1886 Jan. 13	"	Continuous pain in pelvis; repeated attacks of pelvic peritonitis	10 years
4	M. B.	House work, Royton	25 M.	April 30	"	Recurrent pelvic peritonitis; constant pelvic pain, incapacitating her for work	3 years
5	M. E. B.	Weaver, Rawtenstall	21 S.	1887 June 7	"	Amenorrhœa 19 weeks, severe pain in lower part of abdomen, commencing with acute attack 10 weeks before admission. After 2 months' rest in hospital pain and tenderness subsided, but swelling increased	19 weeks

ysical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
rounded, tender ng to right of behind uterus; e mobility im- d. *Diagnosis.*— nic ovaritis with c peritonitis	Right ovary size of walnut, inflamed and indurated. Firm tumour of each broad ligament, consisting of a compact mass of small cysts; left ovary healthy; all parts adherent. Tumours enucleated; right ovary and tube removed	48 hours	No	R.	Seven months later stout and well, free from pain, and able to earn her living. See 'Brit. Med. Journ.,' Jan. 30, 1886.
ɡ, firm, tender ing on right side pelvis, pushing s to left. Pro- the right Fallo- tube distended	Fallopian tube on right distended with blood; its walls thickened; right ovary enlarged to size of hen's egg, containing a blood-cyst; left ovary cystic. Both ovaries and right tube removed; adherent viscera separated	72 hours	No	R.	Temp. during convalescence only once reached 100° F. Two months after operation free from pain, able to go about as usual. See 'Brit. Med. Journ.,' Jan. 30, 1886.
s fixed; tender ing in right side vis. *Diagnosis.*— nic ovaritis with sions	Contents of pelvis matted; right tube distended with serum; three serous cysts in broad ligament. Cysts and diseased tube removed; adhesions separated	Until death	No	D.	Died on third day from peritonitis.
fixed tumour on side of pelvis, of orange. *Dia- s.*—Dilated right	Right ovary cystic and enlarged, 3 in. long; one large cyst filled with pus; universally adherent; both tubes much thickened, with cysts in walls. Both tubes and both ovaries removed	48 hours	No	R.	Convalescence rapid. Six months after operation stout, well, and free from pain. Oct. 25, 1892.—Feels as well as ever she was; no pelvic pain; has not menstruated for two years.
nen swollen, ten- resonant; no tu- ; no fluctuation; s normal in size, . *Diagnosis.*— rtain	All contents of pelvis matted together by adhesions; tense abscess on right side of pelvis, with thin walls. Abscess emptied, irrigated, and drained; walls secured to abdominal incision. Uterus and appendages not distinguished	24 hours. India-rubber tube 5 months	No	R.	Convalescence rapid, except that a discharging sinus existed for many months. In August, 1892, she was perfectly well, and had been married 2 years. Menstruated regularly.

No.	Name	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Dura illne
6	E. J.	None, Winton, near Patricroft	23 M.	1887 Oct. 12	St. Mary's Hospital, Manchester	Menorrhagia; abdominal pain dating from two months after marriage, and becoming worse; incapable of least exertion	13 m
7	E. F.	Servant, Ashford	25 S.	1888 April 5	St. Thomas's Hospital, London	Amenorrhœa; emaciation; pyrexia; constant pain; bedridden	16 m
8	A. L.	None, Southwark	20 W.	May 21	„	Pain in left iliac region and in micturition. Pallor, emaciation, general feeling of illness. Temp. 102·6°	12 m
9	M. C.	Tailoress, Dalston	19 S.	Oct. 18	„	Gonorrhœa; recurrent pelvic peritonitis; constant pelvic pain	9 m
10	S. T.	Dressmaker, Marylebone	32 S.	Dec. 20	„	Recurrent pelvic peritonitis; almost constant pelvic pain, especially on left side. Looks thin, sallow, ill, and tired	5 y
11	G. C.	House work, Barking	32 M.	1889 Feb. 21	„	Hæmorrhage; pain in back, vulva, right thigh, and knee	12 w

ical signs and liagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
ictuating swell- right of and uterus, which nal in size and forwards. *Dia-* —Retro-uterine	Intra-peritoneal abscess in right side of pelvis; 20 fl. oz. pus removed; cavity irrigated and drained; edges secured to abdominal incision; nothing removed	72 hours. India-rubber tube 5 months	No	R.	Rapid improvement in general health, but discharging sinus existed for several months. In July, 1892, was quite well.
hard, obscurely ting tumour in ic region; ute- d. *Diagnosis.* ic abscess	Abscess to left of uterus; 3 fl. oz. pus removed; wall ¼ in. thick, lined with caseous material. Cavity emptied and drained; opening secured to abdominal incision	India-rubber tube many months	Yes	R.	Immediate improvement in health, but sinus left, discharging muco-pus. On Jan. 14, 1890, sinus dissected out; found to consist of left Fallopian tube, thickened, but no longer distended.
fluctuating, y prominent g above pubes; fixed and dis- to right; swelling above l roof on left *Diagnosis.*— abscess	Intra-peritoneal effusion of serum (20 fl. oz.) walled in by pelvic viscera and by adhesions. Cavity emptied and drained	India-rubber tube 11 days	No	R.	Highest temp. after operation, 99° F. Remained well and at work for 4¼ years. In Sept., 1892, attack of pelvic pain; mass on right side of uterus; right appendages removed for chronic inflammatory disease.
fixed, cystic g behind and to f uterus; uterus thickening on *Diagnosis.*— hydrosalpinx	Right hydrosalpinx. Tube and adjacent ovary removed	No	No	D.	P.M.—General peritonitis; pus in left tube and in remains of right tube. See 'Obst. Soc. Trans.,' vol. xxx, p. 406 and plate; also 'Brit. Med. Journ.,' July 20, 1889, pp. 123, 124.
, globular, fluc- tumour above causing little or minence of ab- l wall. Uterus to left	Pelvic viscera densely matted; retro-uterine, pedunculated, subperitoneal cyst, containing 30 fl. oz. dark brown fluid (altered blood) and two small suppurating cysts in its wall	20 hours	Yes	D.	P.M.—Suppurative peritonitis. Both ovaries and both tubes involved amongst the pelvic adhesions. See 'St. Thomas's Hosp. Rep.,' vol. xviii, p. 76.
firm, elastic, eable mass be- nd to right of ; obscure thick- high up in left or quarter of	Old pelvic adhesions; amongst them on each side a firm blood-clot embraced by the fimbriæ of the Fallopian tube; right tube thickened, empty, and undilated. Both tubes and left ovary removed with the clots	50 hours	No	D.	Died on ninth day. P.M.—Acute nephritis. No cause of death discovered in parts concerned in the operation. See 'St. Thomas's Hosp. Rep.,' vol. xix, p. 179.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness.
12	S. A. W.	Servant, Worfield, Bridgnorth	22 S. 1-para	1889 March 21	St. Thomas's Hospital, London	Recurrent pelvic peritonitis; constant pain right iliac region; inability to work or even move about; pyrexia	5 years
13	A. M.	None, Newington	39 M.	Aug. 2 and Aug. 30	"	Constant pelvic pain; purulent discharge from rectum; emaciation; anæmia	2 years
14	A. O.	Dressmaker, Waterloo Road	28 M.	Sept. 14	"	Pain, loss of appetite, great emaciation; pyrexia; inability to sit, and therefore to earn living	12 months
15	S. B.	Prostitute, London	22 M. (?)	Oct. 17	"	Recurrent pelvic peritonitis; irregular hæmorrhage. Purulent discharge from uterus	4 months
16	L. B.	Nursemaid, Turner's Hill	34 S.	Oct. 24	"	Dysmenorrhœa; pain in right hip and left iliac region, the pain latterly constant; always ailing	11 years
17	A. C.	None, Edmonton	40 M.	Nov. 18	"	Seized 5 weeks before admission with stabbing pain in lower part of abdomen. Subsequently had general bronchitis, pains of rheumatic character, abdominal pain and vomiting, with temp. 102°. On admission extremely ill; bronchopneumonia, occasional vomiting, much pain in right iliac region and down right leg. Temp., Nov. 8th to 18th, varied from 99·8° to 104·8°	5 weeks

Physical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
us pushed to right a smooth, firm, tic, slighty move- mass, filling up posterior quarter pelvis	Small suppurating cyst of left ovary; both tubes thickened and dilated; right ovary twice normal size and adherent. Both ovaries and both tubes removed	20 hours	No	R.	Temp. at no time exceeded 100° during convalescence. Apr. 25. —Sent to Convalescent Hospital, Eastbourne. Jan., 1891.—Quite well and at work as a domestic servant. See 'St. Thomas's Hosp. Rep.,' vol. xix, p. 155.
l mass behind and eft of uterus. *Diasis.* — Pelvic abs	Thick-walled abscess deep in left side of pelvis; 1½ fl. oz. pus withdrawn; edges secured to margins of abdominal incision	20 hours	No	R.	No pus from rectum after operation. Jan., 1891. — Ventral hernia, otherwise quite well.
ler, irregular swell- behind and to right uterus, displacing rus to left. *Diasis.*—Pyosalpinx	Purulent salpingitis with suppurating hæmatocele. Left tube removed	48 hours. India-rubber tube 2 weeks	Yes	R.	Acute pneumonia during convalescence. Health restored by operation. See 'Brit. Med. Journ.,' Dec. 27, 1890.
l, ill-defined, irre- ar mass in right erior quarter of is. *Diagnosis.*— salpinx	Right tube occluded, filled with pus; left to external appearance normal. Right tube removed	24 hours	No	R.	Rapid recovery. Temp. uniformly normal. A month later, uterus curetted, &c. March 7th, 1891.—Quite well, menstruation regular, no discharge, condition of pelvis normal.
as fixed; hard, gular mass behind us, connected with age-shaped swell- traceable to right u of uterus; ten- ess in left posterior quarter of pelvis; no swelling. *Diasis.*—Disease of right Fallopian tube	Right tube enlarged and adherent. Left tube apparently normal. Right tube and ovary removed	48 hours	Yes	D.	P.M.—Pus found in uterus and in *left* tube.
fined, soft, elastic lling in lower part bdomen, extending n right lateral wall pelvis nearly to appreciable *per inam*, where it is oth, uniform, tense, elastic. Uterus d, pushed forwards to left. *Diagnosis.* elvic suppuration; icæmia	Tumour aspirated, 18 fl. oz. fetid pus withdrawn. Operation two days later. Right tube much elongated and enlarged, with thickened walls, communicating with ovarian cyst by opening large enough to admit finger, contents suppurating. Left ovary cystic, size of orange, inner surface papillomatous. General adhesions. Both ovaries and both tubes removed	44 hours	Yes	R.	Broncho-pneumonia (septic ?) at time of operation. Temperature, evening of operation, 101·6°; afterwards never exceeded 99·6°. July 17, 1891. —Remains well. See 'St. Thomas's Hosp. Rep.,' vol. xix, p. 165.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness.
18	C. D.	Norwood	29 M.	1889 Nov. 25	St. Thomas's Hospital, London	Recurrent pelvic peritonitis. Acute pain in right side of abdomen; hæmorrhage. On admission, pale, thin, and extremely ill; temp. 102·6°; resp. 40; sordes on teeth and lips	7 years
19	A. H.	None, Clapham	27 M.	Nov. 28	"	Pain in left iliac region; pyrexia	2½ years
20	R. H.	None, Wandsworth	54 M.	Dec. 5	"	Weakness; pallor; hæmorrhage; temp. normal in morning, 99·8° to 100·4° in evening; dull pain in lower part of abdomen; swelling of legs and feet	6 or 7 weeks
21	Mrs. C.	None, Luton	30 M.	Dec. 24	St. Thomas's Home	Severe paroxysmal pain lower part of abdomen and back; menorrhagia; night-sweats; emaciation	5 months

'hysical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
ular swelling felt ›ly in lower part ›domen; *per vagi-* tense, smooth, ic, swelling filling right side of pel- uterus to right fixed. *Diagnosis.* elvic suppuration; icæmia	Right tube much thickened and lengthened, communicating with cyst of ovary by opening ½ in. in diameter, contents suppurating. Left tube also in a state of suppurative inflammation. Left ovary not seen. General adhesions. Both tubes and ovarian cyst removed	50 hours	Yes	D.	Died from peritonitis, 5.30 a.m., Nov. 29, having had artificial anus made previous day for intestinal obstruction. See 'St. Thomas's Hosp. Rep.,' vol. xix, p. 168.
ıs fixed; irregu- hard mass passing ards from each u, that on left ing forwards, that right backwards. *gnosis.* — Double ingitis	Both tubes thickened, occluded, and densely adherent; ovaries adherent. Ovaries and tubes removed	24 hours	No	R.	See 'Brit. Med. Journ.,' Dec. 27, 1890. Jan., 1891. — Quite well, except for a small ventral hernia.
ded, firm, smooth, lated tumour e pubes on left; velling on right firm, with tense l of tissue running sversely across it. our on left is ıs enlarged; that ght separate from *Diagnosis.* — Fi- l enlargements of ıs; ovarian cyst ıd right broad nent	Right tube irregularly distended, communicating with cyst of ovary by aperture large enough to admit a goose-quill. Portion of tube removed 6½ in. long; contents suppurating, fetid. Left ovary cystic, 1¼ in. × ¾ in., removed to check growth of bleeding fibroid	26 hours	Yes	R.	Acute endocarditis during convalescence. See 'St. Thomas's Hosp. Rep.,' vol. xix, p. 172.
ıe mobility im- ›d; high up on t side elongated ling, tender and ıous. *Diagnosis* ıronic inflamma- of right tube and c peritoneum, ably tubercular	Chronic inflammation of both tubes; cystic disease of right ovary; dense peritoneal adhesions; miliary tubercles on peritoneum of tubes, intestine, and uterus. Tubercular ulcers in both Fallopian tubes, filled with caseous matter	24 hours	Yes	D.	See 'Brit. Med. Journ.,' Dec. 27, 1890.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness
22	L. T.	None, Battersea	27 M.	1890 Jan. 17	St. Thomas's Hospital	Pallor; anxiety of countenance; severe pain in left iliac region; high temperature	2 wee
23	K. A.	None, Kentish Town	28 M.	Jan. 21	"	Attack ushered in by pain and vomiting; 9 weeks after last menstruation; since that continuous hæmorrhage	2½ month
24	E. B.	Cricketer, King's Cross	18 S.	April 10	"	Recurrent pain in left iliac region; vomiting; pyrexia. History of yellow vaginal discharge for two years	Acu sympt 6 we
25	Mrs. L.	Stationer, Slough	38 M.	May 19	St. Thomas's Home	Pain in left side since miscarriage 6 years ago. Was taken acutely ill, August, 1889, at Margate, after getting wet, and has been in bed almost ever since with abdominal pain. Occasional offensive discharges of matter from rectum. Temp. 100° to 103° until March; since March normal	6 yea acu sympt 9 mon
26	M. J. H.	Laundress, Tooting	25 M.	May 22	St. Thomas's Hospital	Not well since miscarriage 12 months ago; lost flesh and had pain in left iliac region; pain worse during and since last period, with difficulty of micturition and pain before defecation	Acu sympt 6 we

Physical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
:e, tense, tender is in left posterior rter of pelvis and ind uterus, push- uterus to right. *ıgnosis.* — Pelvic :ess	Exudation in left broad ligament with even surface, and soft but firm consistence; adhesive peritonitis; appendages normal. Probably a hæmatoma. Nothing removed	7 hours	No	R.	On Feb. 7 mass much less in all dimensions; temp. normal.
swelling size of ıge behind uterus left broad liga- ıt. *Diagnosis.*— :ertain	Old intra-peritoneal blood effusion. No organised structure discovered. Tubes and ovaries adherent, but presenting no marked lesion; not removed	48 hours	Yes	R.	Probably a so-called tubal abortion.
e, elongated, non- tuating, fixed swell- in left posterior rter of pelvis, with ll, firm body en- ed in its fold. *ıgnosis.*—Inflamed tube, enclosing mal ovary; both erent	Both tubes thickened from old inflammation; mucous membrane healthy; no fluid in canal; right tube thicker than left; both firmly adherent. Ovaries healthy, adherent. Tubes and ovaries removed	20 hours	No	R.	Much vomiting and pain up to April 27, with alarming emaciation; after which recovery rapid. March 5, 1892. — Has had no pain since leaving hospital. Has menstruated regularly. Is well and strong.
iderable abdominal lling with hard- and resistance left side and ıded prominence niddle line. Cer- uteri pushed up- ds and forwards; e fluctuating lling behind, de- sing retro-uterine :h. *Diagnosis.*— ·ic suppuration, ıably of ovarian , fistulous opening rectum	Both Fallopian tubes thickened and elongated, stretched over large suppurating ovarian cysts, with which the tubes were in direct communication by openings, that on the left large enough to admit little finger, that on right smaller. Both cysts removed with the tubes	72 hours	Yes	R.	Convalescence protracted. In February, 1891, presented herself, looking stout and well. Sinus still discharging slightly; no swelling in either posterior quarter of pelvis; menstruated four times in 5 months; duration normal, quantity variable. No pain, but back aches after exertion. Aug., 1892. —Quite well; sinus healed 8 months ago.
ıur in left iliac on, felt but not ; uterus pushed ght, fixed; tense, er, slightly move- mass on left; lar mass on right. *ynosis.* — Chronic mmation of both s, with small ova- cyst	Both tubes enlarged, occluded, and very firmly adherent. Right ovary normal, adherent; left ovary cystic, size of hen's egg, one cyst suppurating. Both tubes and left ovary removed	24 hours	Yes	R.	Some suppuration after removal of stitches at lower angle of wound. After 12th day recovery rapid. Sept. 2.— Stout and well. Oct. 22, 1892.—Well and strong; no pain; menstruates regularly; tendency to hernia in 2 or 3 places along wound.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness.
27	E. G.	Bookfolder, Lambeth	23 W.	1890 June 6	St. Thomas's Hospital	Severe pain lower part of abdomen, shooting down thighs, commencing 6 weeks after confinement. Symptoms subsided under hospital treatment in Dec., 1888. Well up to April, 1890, when she had to give up work owing to pain and hæmorrhage	18 mon
28	E. L.	None, Streatham	34 M.	July 3	"	Recurrent pelvic peritonitis; continuous pain for past 3 weeks in right iliac region and back	2 yea
29	S. P	None, Stowmarket	27 S.	July 10	Private Nursing Home	Recurrent pelvic peritonitis, more frequent last 2 years. Dragging pain in right iliac region after least exertion. Loss of weight. Has been chiefly confined to bed past 5 or 6 weeks	7 yea
30	A. T.	None, Peckham	24 M.	July 21	St. Thomas's Hospital	On July 5th severe attack of pain in left side, extending down leg; temp. 98·8° to 102·2°	13 d

ysical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
lar, hard swell-n each posterior er of pelvis, more ed on right, where ube can be felt ened and the prolapsed; swell-nd tenderness in las's pouch	Right tube thickened and adherent; right ovary enlarged, cystic, and adherent; left tube and ovary adherent; tube size of goose-quill. Under micro-scope, pus in contents of tubes. Both tubes and both ovaries sepa-rated and removed	46 hours	Yes	R.	Left hospital well in a month. April 2, 1891. —Quite well and free from pain. Has men-struated regularly last 6 months. Jan. 7, 1893. — Well and strong; married again 2 years ago; men-struates regularly; no pain except at men-strual period.
fluctuating swell-› left of uterus; ght, high up, a irregular swell-giving the im-ion of tube and embedded in a of adhesions	Pelvic contents matted together; on right side thickened tube and normal ovary densely adherent. During se-paration blood-stained pus escaped from amongst the adhesions. A thickened and pro-lapsed loop of large intestine adherent on left of uterus. Left tube and ovary not found. Right append-ages removed; pus in right tube	44 hours	Yes	R.	Highest temp. after operation 100·4°. Left hospital well in a month.
fixed; irregular ard mass on right less defined mass t. *Diagnosis.*— disease with peritonitis	Pelvic contents densely matted. On right side mass of caseous mate-rial, partly inside and partly outside the tube, the tube having entirely lost its rugæ, and become sepa-rated by a ring of ulceration into two parts. Left side of pelvis also contained caseous material. Tube extremely adhe-rent, occluded, thickened, and elongated. Both ovaries and both tubes removed	44 hours	No	R.	Did well first month, then had rise of temp., and eventually an ab-scess burst into rectum. Jan., 1891. — Very well; has lost almost all the aching pain after exertion. Nov. 17, 1892.—Feels very well; no pain since Spring.
mass in each pos-quarter of pelvis, g out from ute-cornu, and ter-ing as a thick-tube behind s. *Diagnosis.*— le tubal disease, bly purulent. peritonitis	Both tubes full of pus and deeply ulcerated and perforated; walls very thick, distal ends closed; ovaries normal, adherent. Both tubes and ovaries removed	20 hours	Yes	R.	No pain on leaving hospital. Has gained flesh, and is in good spirits.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness
31	M. M.	None, Scarborough	23 M.	1890 Aug. 4	St. Thomas's Hospital	Admitted Feb. 1, 1890, with large pelvic hæmatocele, which disappeared. Returned to Scarborough March 25th. On Aug. 2 re-admitted, not having been able to do much work on account of backache and pain in left iliac region	11 mon
32	E. B.	None, Kent Road	40 M.	Aug. 5	,,	Continuous pelvic pain and dysmenorrhœa	6 mon
33	Mrs. F.	None, Manchester	31 M.	Sept. 1	Private Nursing Home	Dyspareunia for several years. Attacked suddenly in July, 1890, whilst sitting reading out of doors, with extremely acute pelvic pain. In bed for a week, when severe symptoms recurred, followed by prostration, backache, flatulence, high temperature, and rapid pulse	4 yea acut sympt 5 we
34	E. B.	None, Lambeth	29 M.	Sept. 4	St. Thomas's Hospital	Missed two menstrual periods; at third seized with aching pain in lower part of abdomen and back; face pale, features drawn; has been in bed since, and has had continuous slight hæmorrhage; pain has gradually diminished	6 we

hysical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
ular, hard mass in posterior quarter elvis. *Diagnosis.* ubal disease	Both tubes and both ovaries matted by adhesions; tubes not enlarged, and but little thickened; remains of blood-clot behind uterus. Cavity cleansed, right ovary removed; right tube separated. Left tube and ovary not interfered with	24 hours	No	R.	Discharged Aug. 23rd; no pain; general condition improved. July, 1892.—Is in better health than for years. No pain or backache. Menses regular. Is quite fit for work.
, irregular swell- behind and be- h body of retro- d uterus. *Diagno-* —Adherent tube ovary behind oflexed and adhe- uterus	Prolapsed right ovary behind body of retroflexed uterus, enlarged from fibroids and incarcerated. No adhesions. Tubes and ovaries healthy. Displacement of uterus and ovary rectified. Pessary introduced *per vaginam.* Nothing removed	None	No	R.	August 29th.—Went home well; uterus in good position. April 18th, 1891.—Stout, well, and free from discomfort.
side of pelvis occu- by a fluctuating ling rising into omen, and reach- to within 2¼ in. of ilicus. Some pro- ence of abdominal above pubes. rus in front and ight fixed. *Dia- is.*—Suppurating of ovary and pel- peritonitis	Pelvis occupied by matted viscera, with covering of omentum. Both Fallopian tubes enlarged and thickened; left tube stretched out over thick-walled suppurating cyst of left ovary, with which the tube was in direct communication at its fimbriated extremity. Contents of tube and ovary fetid. Right tube occluded. Right ovary indurated and slightly enlarged. Both tubes and both ovaries removed	36 hours	No	D.	Alarming amount of shock at close of operation. Died at 11.40 a.m., Sept. 5th. No P.M.
tumour in left region; uterus ned upwards and vards; length of ine canal 3 in.; irregular swelling nd uterus; thick- g of right broad ment	Ruptured blood-cyst of right broad ligament; intra-peritoneal hæmatocele; left tube distended with blood-clot; no trace of fœtus discovered. Cyst of broad ligament removed with right tube and ovary. Left tube removed	48 hours; then india-rubber tube 3 days	Yes	R.	Oct. 4th.—Discharged, looking and feeling well. Very slight discharge from sinus at lower angle of wound. Jan. 5th, 1892.—Well and at work ever since leaving hospital. Oct., 1892.—Stout and well; no pain; menstruates regularly.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness
35	L. B.	Mangler, Walworth Road	51 M.	1890 Sept. 9	St. Thomas's Hospital	Recurrent pelvic inflammation; pain in left side and yellow discharge	17 ye
36	E. B.	Barmaid, Chelsea	34 S.	Oct. 16	,,	Chronic ill-health for years; severe pain and hæmorrhage 3 weeks ago after getting wet. Now complains of pain in left side of pelvis, shooting down thigh, and of slight hæmorrhage. Emaciated, very pale, and extremely ill	Some years Acute symptoms 3 weeks
37	J. H.	None, Streatham	46 S.	Oct. 23	,,	Peritonitis after getting wet in Aug., 1889. Since then pain in pelvis, especially in right side, and after walking, standing, &c. Metrorrhagia. Symptoms worse last 3 months	14 months
38	M. N.	None, Battersea	51 M.	Nov. 10	,,	Profuse and irregular menstruation accompanied with pain, dating from puerperal illness 30 years ago. Great and continuous pain in back, especially on stooping and before defecation	Many years

ysical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
; enlarged; on side of pelvis a th, tense, fixed, c swelling, size nall orange. In posterior quarter lvis an irregular, fined swelling. *nosis.* — Ovarian on left; inflamed on right	Small ovarian cyst on left removed, with adherent but otherwise normal tube. Enlarged, prolapsed, and adherent tube removed, with normal ovary, on the right	48 hours	No	R.	Oct. 8th.—Left hospital well. 1891, Feb. 28th. —Presented herself at the hospital, looking well and in good condition. Has had little or no pelvic pain since operation. Has not menstruated. March 17th.—Small ventral hernia.
ı fixed; fixed, irar, hard mass ; up left posteuarter of pelvis, nating behind s. *Diagnosis.*— nded and adhelefft tube and adıt ovary	Uterus and appendages of both sides involved in a mass of old adhesions. Both tubes thickened, containing muco-purulent fluid; outer coat of both ovaries thickened. Adhesions separated, both tubes and both ovaries removed	44 hours	No	R.	Improved rapidly. Went to convalescent home Nov. 22nd, where she gained 4½ lbs. in weight. Mar. 10th, 1893.—Is in better health than she has been for years; complains of flushes and occasional headache. Has not menstruated.
lar, hard swelling up in left posteuarter of pelvis, ent to uterus. *nosis.*—Inflamed and ovary, adhe-	Both tubes thickened and enlarged, with thick, purulent mucus in their canal. Right ovary cystic, and dense from chronic inflammation; contents of cyst purulent and fetid. Both tubes and right ovary removed	44 hours	No	R.	Dec. 10th.—Left hospital stout, well, and free from pain. Feb. 27th, 1891.—Looks stout and well; complains of a little pain on right side. Some swelling and tenderness to right of uterus. In June, 1891, quite well. Died in November from cancer of stomach.
welling in pelvis ont of and to of uterus; uterus and retroverted. *nosis.*—Cyst in ı, with chronic : peritonitis	A number of thin-walled cysts of right broad ligament. Uterus retroverted and adherent. Tubes and ovaries bound down by old adhesions. Cysts of broad ligament removed. Adherent appendages not disturbed	48 hours	Yes	D.	Continued vomiting and abdominal distension. Died in a state of collapse on the 21st Nov., having complained of intense pain for four hours previously. No P. M.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Durati illne
39	S. R.	Ironer, Battersea	33 S.	1890 Nov. 12	St. Thomas's Hospital	Pelvic peritonitis in Adelaide Ward, April, 1889, when she had a discharge of pus from rectum. Left hospital June 8th, and remained well for two months. Since then had constant desire to defecate, and passed pus	19 mo
40	A. B.	Servant, Brixton	22 S., 1-para	Nov. 19	"	Pain in left iliac region, dating from 9th day after confinement. Frequent hæmorrhages. For past 6 weeks pain severe, discharge of blood continuous and profuse	6 mo
41	E. C.	None, Lambeth	25 M.	Nov. 28	"	First admitted Dec. 2, 1889, 7 weeks after confinement, with history that a few hours previously had been seized with severe abdominal pain, faintness, and vomiting. Temp. 100·6° to 102·6°. Urine $\frac{1}{8}$ to $\frac{1}{10}$ albumen. Discharged much better Jan. 22, 1890. Readmitted Nov. 12 with recurrence	12 mont

sical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
nd smooth swell- hind and to right rus. Evacuations in pus. *Dia-* .—Suppurating in cyst commu- ng with rectum	Small, inflamed, thick-walled, tense, and firmly adherent suppurating cyst of right ovary. Right tube inflamed. Left tube and ovary adherent, otherwise healthy. Right tube and suppurating cyst removed	48 hours; replaced by india-rubber tube	Yes	R.	Suppuration from wound for 7 weeks. Temperature after operation only once exceeded 99·4°; it was 100° on Nov. 21st from bowel disturbance. Discharged well Dec. 31st. April 18th, 1891. —No pain in pelvis or discharge from the bowel since leaving hospital; menstruates regularly.
nt discharge cervix; cervical n; uterus retro- l; anterior to below body of s, on left side, a lefined oblong depressing left t, and divided wo portions by a . Right side *Diagnosis.*— sed left tube normal ovary ent	Thickened and unequally dilated left tube, containing thin pus, adherent; with the normal ovary to broad ligament and other parts. Uterus retroverted and adherent. Right tube normal; right ovary normal, but prolapsed and adherent. Left appendages removed. Uterus and right ovary set free	30 hours	No	R.	Discharged well Dec. 10, 1890. Readmitted in January, 1891, on account of some pelvic pain. Examined *per vaginam*, Jan. 16 and 28, with negative result. The temperature was normal. Evidently an instance of malingering.
ned soft mass d and to right terus; smaller, r, and irregular to left. *Dia-* .—Inflamed and ent Fallopian with diseased enlarged right	Pelvic viscera matted; right tube thickened and occluded; walls $\frac{1}{8}$ in. thick; no ulceration; no contents; mesosalpinx thickened; right ovary enlarged ($2\frac{1}{2}$ in. × $1\frac{3}{4}$ in.), on section found to be riddled with small abscesses. left appendages normal; right only removed; coil of intestine thickened and adherent in Douglas's pouch, during separation of which a small rent was made in the bowel; this was closed by sutures	24 hours	No	R.	Discharged Jan. 24, 1891, having gained flesh and with a good appetite; a slight purulent discharge from lower angle of wound. Only once (Dec. 5) was there a fæcal stain on dressing. Feb. 17.—Sinus not quite healed; menstruated for first time Feb. 13 to 16.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Duration illness
42	A. H.	Mother's help, Brixton	20 S.	1890 Nov. 22	St. Thomas's Hospital	Continuous hæmorrhage for 2 months, commenced suddenly with a profuse flow, 2 weeks after a period, as she was carrying coals. Occasionally a little pain at lower part of abdomen. No loss of flesh; no pallor; no interference with general health	2 mon
43	E. S.	None, Richmond	25 M.	Dec. 17	"	Pain in lower part of abdomen, back, and thighs, especially after standing. Gradual loss of strength and flesh. For 8 months unable to do housework; for last 4 months has been obliged to lie down almost entirely. Temp. normal	26 mon
44	E. J. S.	None, Battersea	25 M.	Dec. 18	"	Abdominal pain and weakness; loss of flesh; thick yellow vaginal discharge; pain on micturition. Has had to lie up frequently. (Husband in Clayton Ward in August, 1890, for urethral stricture)	2 yea

ical signs and liagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
normal; body neck to right. ıt of uterus, on e slightly pos- to it, a soft, ned swelling. *ɔsis.* — Hæma- of broad liga- (The swelling bserved gradu- o increase in operation a after admis-	Abscess in sheath of right rectus, 1½ fl. oz. thick curdy pus evacuated. Parietal and visceral peritoneum everywhere studded with miliary tubercles. Large, soft, fluctuating sessile mass lying deeply in each posterior quarter of pelvis. Structures implicated not differentiated. Abdominal incision closed	25 hours	No	R.	Readmitted March 9 with emaciation and hectic; no change in physical signs. A year after operation in good health; no physical signs of disease now detected anywhere. Oct. 22, 1892. Is again losing flesh and feeling weak. No definite signs of disease either in abdomen or pelvis.
displaced to large, tender, ɔed swelling be- ıd to right; both ɜs (lateral) de- l. Sulcus be- right lateral sterior portions velling. *Dia-* —Double pyo- :	Both tubes enormously enlarged, occluded, and distended with thick pus; circumference of right 4½ in., of left 6½ in.; mucous membrane ulcerated. Both tubes separated and removed. Ovaries not seen	52 hours, replaced by india-rubber tube 20 hours	Yes	R.	Prolonged and severe shock after operation. Highest temp. during convalescence 100·2°. Discharged Jan. 24, 1891. March 6, 1891. —Looking and feeling well; has menstruated twice; no pelvic pain. Gonorrhœal vaginitis. Sept. 15.—Had influenza in May, not well since; nothing abnormal in pelvis; menstruation regular.
ɜd August 11, Both tubes felt ıed and adhe- mproved great- ıospital. Went ugust 30. Re- ɜed Dec. 15, been laid up ischarge. Even, ender swelling and to right of . Thickened long free border broad ligament	Right tube enlarged and adherent, circumference 5¾ in., filled with old adherent clot, which protruded from open fimbriated end; outside tube a quantity of dark firm clot. Enlarged veins, filled with clot, seen beneath mucous lining of tube. Left tube occluded, otherwise normal. Both tubes and both ovaries removed	60 hours	Yes	R.	Suppuration in pelvis during convalescence, pus discharged through lower angle of wound. Left hospital Jan. 18, 1891; very little discharge. Feb. 17.—States that sinus closed on Feb. 7; quite well; nothing abnormal *per vaginam.*

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Dur ill
45	I. E.	None, Bermondsey	32 M.	1891 Jan. 8	St. Thomas's Hospital	Yellow discharge; bearing-down pain; pain in left iliac region, chiefly on standing or walking. Dysmenorrhœa; irregular menstruation; pain on micturition. Seriously ill for one week; acute pain on left side and diarrhœa	2 y acut pto w
46	K. W.	Machinist, Peckham	23 S.	Jan. 15	"	Attacked suddenly with "forcing pains" in abdomen. Two months later got her feet wet, and was seized with crampy pains in lower part of abdomen. Has been in bed a fortnight. Temp., day of admission, 100·6° to 104·2°	3 mo ac sym 3 w
47	C. P.	Charwoman, Peckham	31 M.	Jan. 22	"	Two months after confinement seized suddenly with severe pain in left iliac region and down thigh. More or less subject to similar attacks ever since. Last month much worse, with loss of flesh; pain on defecation. No disturbance of menstruation	6 y

sical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
retroverted and ɔed to right. To ıd posteriorly a separated by a from body of . On right hickening ½ in. eadth, feeling coil of intes- *Diagnosis.* — ɜ tubal disease, ıly purulent	Pelvic viscera matted. Left tube elongated, thickened, twisted, and full of pus. Right tube thin-walled and tense, being distended with serum. Ovaries adherent but normal. both tubes and both ovaries removed	24 hours	No	R.	Recovery rapid. Discharged well Jan. 31. A month later had some pain on left side. Feb. 24.—A small swelling, size of normal ovary, on left side of pelvis; complains of pain on that side. On July 15 patient went into King's College Hospital, where, a few days later, Dr. Hayes removed a cyst of the left broad ligament. Nov. 13.—In Guy's Hospital, complaining of pain and desiring another operation; no discoverable lesion.
slightly dis- to right by a mass in left or quarter of size of small lepressing vagi- nix	Left tube thickened and adherent, embracing enlarged ovary, size of pigeon's egg, containing a cyst full of blood. On section, wall of tube found three times its normal thickness; mucous membrane normal. Right tube and ovary normal. Left tube and ovary removed	No	No	R.	Rapid recovery. Discharged well Feb. 7. Mar. 26, 1892.—Attended on account of having lost flesh. No pain; menstruation regular. Uterus moveable; no abnormal swelling in pelvis.
ıass high up in sterior quarter ·is, traced from ı cornu to back ·ix. Indistinct ıing in right or quarter of *Diagnosis.*— tubal disease	Both tubes dilated and adherent. Conical blood-clot expanding outer inch of right tube, and continuous with small hæmatocele amongst the peritoneal adhesions. Hydrosalpinx of left tube	48 hours, replaced by rubber tube	Yes	R.	Discharged well Feb. 25.

No.	Name.	Occupation and residence.	Age and civil condition.	Date of operation.	Place of operation.	Symptoms.	Dura ill
48	K. W.	Still-room maid, Streatham	22 M.	1891 Jan. 29	St. Thomas's Hospital	Pain in right iliac region since birth of child 4 years ago. Eight months ago had a sudden escape of pus from vagina, which has continued to flow ever since	4 y
49	F. C.B.	Chamber-maid, City	24 S.	Feb. 5	,,	Violated by stranger, 4th Nov., 1890. Five weeks later was admitted under Dr. Payne for pains in joints and fever. At end of January purulent vaginal discharge noticed, and patient complained of pelvic pain. Temp. 99° to 104·4°	7 w
50	M. W.	Servant, Wandsworth Road	19 S.	Feb. 26	,,	On Jan. 3 got wet through, and during night seized with severe pain in right iliac region. Was thought to have typhoid, and admitted to medical wards on Feb. 10. Constant headache, diarrhœa, hæmorrhage from bowel, no sickness	7 w

ysical signs and diagnosis.	Condition found and nature of operation.	Glass drainage-tube.	Peritoneum flushed.	Result.	Remarks.
as's pouch occu- by large, hard, extending more ight than left. of dense hard- around cervix. l aperture high a posterior vagi- vall. *Diagnosis.* lvic abscess with ous opening into ia	Right ovary 2¼ in. × 1¾ in. × 1 in., consisting on section of a number of inflamed cysts, many of them full of pus. An opening, surrounded by granulation tissue, on surface, communicating with one of the abscess cavities. Whole mass adherent behind and below uterus. Right tube thickened. Left tube beaded from kinking, otherwise healthy. Right tube and ovary and left tube removed	20 hours	Yes	R.	Discharged well March 7. Nov. 15, 1891.—Readmitted on account of paroxysmal attacks of pain in right groin with vomiting. Between the attacks patient well and strong. Menstruates regularly. No abnormal swelling in pelvis; a little tenderness on right side. Temp. normal.
ent urethritis and ent discharge vagina; elon- l tube-like swell- n right posterior er of pelvis; ing less marked eft. Douglas's occupied by swelling. *Dia-* s. — Gonorrhœal gitis	Pelvic viscera matted. Collection of pus in Douglas's pouch. Both tubes thickened, with pus in their canal, trickling from open fimbriated end into the retro-uterine abscess. Uterine appendages both sides removed. Appendix vermiformis removed	48 hours	Yes	R.	Temp. after operation 96°, 3 hours later 101·8°, at midnight 98·4°, after which never reached 100°. Joint pains disappeared, and patient quickly recovered her usual health.
b. 19 irregular somewhat elon- and smooth ing in left pos- quarter of pel- less marked ing on right. *nosis.*—Purulent gitis on left with sion; on right, out. Gonorrhœal bercular	Thickened tube on left containing pus, and communicating by a recently ulcerated opening with the interior of a small suppurating cyst of adjacent ovary. Right tube enlarged and adherent. Right ovary normal. Both tubes and both ovaries removed	44 hours	Yes	R.	Recovery rapid.

Dr. JOHN WILLIAMS said that he felt personally indebted to Dr. Cullingworth for bringing this paper before the Society, for, although he differed widely from Dr. Cullingworth, both in conclusions and in practice, he believed that the discussion of the paper would help to place the practice of opening the abdomen for pelvic disease on a sounder and more reasonable basis than that on which it rested at present. The first difference he had with Dr. Cullingworth was as to the title of the paper. He thought the title "The Value of Abdominal Section in certain Cases of Pelvic Peritonitis" was misleading; for on examining the cases he found that twenty-four of the fifty were cases of ovarian or other cysts, which were simple, inflamed, or suppurating; and with regard to the propriety of the removal of them there were no two opinions. In these cases the pelvic inflammation present may have been independent of the new growths, although it was well known that inflammation was a very frequent consequence of the presence of cystic disease in the pelvis. Then there were, again, six cases of pelvic abscess in which the only reasonable plan of treatment was to open them, let out the pus, and drain them. It might be a matter of opinion whether the opening should be made from the vagina or through the abdominal wall. In some cases the way through the vagina would probably have been better, while in others the abdominal method would be preferable. There were, moreover, ten cases of hæmatocele, one with ruptured cyst of the broad ligament and one suppurating, and one case of hæmatoma of the broad ligament. The case in which suppuration had occurred, all would agree, should have been treated like an abscess, but it is probable that the other nine would have got well without operative interference, for death from hæmatocele is extremely rare. Dr. Williams had only seen two such. There were five cases of apparently uncomplicated cases of hydrosalpinx, and seven of salpingitis or hydrosalpinx, for he could not admit that Cases 9, 16, and 36 were cases of suppurating salpingitis. With regard to Case 9, Dr. Cullingworth found during the operation that the right tube contained serous fluid, and the left was healthy. This in itself would be enough, perhaps, to establish Dr. Williams' view of this case, but what was seen on post-mortem examination appeared to demonstrate the correctness of it, for the woman died from septic peritonitis, and pus was found not only in the left tube, but also in the stump of the tube, which was the seat of a serous effusion at the time of operation. Two cases operated upon were cases of tubercular disease of the tubes. He did not think that operation was justifiable in cases of this disease, and especially when tubercle was found in other organs. He had an observation to make with regard to the result. The mortality was very high, but he did not think that it was higher than the mortality from these operations was throughout the

country generally, although in a few hands it was less. The cases—or many of them—presented great difficulties to the operator, and it was in such cases that the mortality was high in skilled hands. He had pointed out that skill in operating favoured a low mortality, and that one great secret of a very low mortality was operating upon cases in a condition as near that of health as possible. There was a mortality which necessarily arose from the difficulties of the operation, and this mortality was eliminated when operations of this kind were undertaken for trivial deviations from health. When considering the mortality of the operation the mortality from the disease should be borne in mind. He had seen two cases of death only from ruptured tubes or abscesses, and he calculated that with a mortality of 18 per cent. the mortality of the operation was several hundred times greater than that of the disease. Then as to the permanent result: nine died after the operation; one within twelve months of cancer of the stomach; fourteen were seen a year or more after the operation, eight appeared not to have been. Were the cases operated upon cured? Nine died after the operation, and one of cancer of the stomach twelve months after operation. This left forty to be accounted for. Of fourteen only of these was anything known after the lapse of twelve months after the operation. Of eight there was no account at all after they left hospital. This left thirty-two. It was impossible to trace all patients operated upon in a place like London and under a Government such as ours. This could only be done when every one was under police supervision, as in Germany; and Dr. Williams knew of no statistics of any value on the permanent result of removal of the appendages except those of Schmallfuss. Those of English operators were absolutely worthless because of the impossibility of following the cases. Of the thirty-two operated upon by Dr. Cullingworth and subsequently traced at all, five suffered pain of a more or less permanent character, six had sinuses for a longer or shorter interval, four had hernia, and two required a second operation; that meant that in about half the cases more or less suffering was present after the operation. So far as he could gather from the most reliable statistics about 30 per cent. of patients from whom diseased appendages were removed were cured by the operation. Many more were benefited and cured by time and other treatment, while the rest continued to suffer.

Mr. Alban Doran considered that it was good surgery to ensure the escape of pus and of other products of inflammation, and that in so far as that object was gained Dr. Cullingworth's practice was sound. He noted that Cases 5, 6, 8, and 13 were typical instances of good surgery; abscesses were opened or serous effusions liberated, and the patients recovered without mutilation. Parametric abscesses required similar treatment.

It was not sufficient to make a mere puncture; a free incision should be made through an abscess which pointed anteriorly, the cavity should be washed out, and then explored as carefully as the peritoneal cavity is explored in an ordinary abdominal section. Then there would be no fear of leaving deeper collections of pus unopened. He himself treated suppurative parametritis as a matter for the operating table, and not for mere puncturing and poulticing. In a recent case where the appendages as well as the parametrium were inflamed, he left the tubes and ovaries alone after free opening of abscesses. Recovery was perfect, all local signs of tubo-ovarian disease steadily disappearing. Case 13 showed that when pus was discharging from the rectum, the fistulous tract closed of itself when the abscess was well opened from the abdominal aspect. In cases like 19, where a cyst opening into the rectum was removed, it would be interesting to know how the operator avoided damage to the rectum and fæcal fistula. Dr. Cullingworth overlooked one cause of persistence of pain after removal of the appendages. The stump was usually more or less unhealthy, like the parts cut away, and the ligature might cause much irritation. The stump of a true ovarian tumour, it must be remembered, was usually made up of tissues free from inflammatory changes, hence it bore ligature well. When an abscess was opened without removal of appendages, then, if other parts were healthy at the time, recovery was very complete, no stump and no ligature remained behind. Mr. Doran then referred to MM. Péan and Ségond's practice of vaginal hysterectomy for the cure of pelvic suppuration. British surgeons would hardly adopt this operation. The patients often recovered because the wholesale cutting allowed the free escape of pus. Amputation of the thigh for hip-joint disease might also cure the patient by allowing of the free escape of pus. In both cases good surgery demanded the same object by other means which did not include perilous mutilation. The French operators asserted that it was dangerous to remove the ovaries and leave the uterus; whilst, when the uterus was removed, even inflamed appendages underwent atrophy. Grammatikati, however, had found, from after-histories ('British Med. Journal,' Oct. 1st, 1892, Epitome, p. 55), that the appendages did not atrophy under these circumstances. Mr. Doran urged that when the operator found that the tube and ovary were merely bound down by adhesions, they should be set free, but never removed. In five cases where Mr. Doran had only separated adhesions, complete cure from pain had followed; in one other case where he removed the appendages on one side, and liberated their fellows from adhesions, the patient afterwards bore children. Drainage was good in these conservative cases, as it ensured the escape of the products of inflammation. He noted how often Dr. Cullingworth used the drainage-tube, according to the

tables. This practice was probably more justifiable and important than might at first appear. As far as Dr. Cullingworth's practice harmonised with the simplest principles of general surgery as above explained, so far would it abide and become established.

Dr. PLAYFAIR said that none of the previous speakers seemed to him to have sufficiently recognised the great value of Dr. Cullingworth's paper. He could hardly recollect any previous paper he had heard in the Society in which more trouble had been taken, and in which cases had been more accurately and carefully recorded. The subject was one of immense importance, and it merited the most careful consideration and discussion. While he thus fully recognised the merit of Dr. Cullingworth's work, he felt that his conclusions were in many respects open to criticism. Nor could he at all endorse many of them. As to the general principle that when marked structural disease of the uterine appendages existed, connected with suppuration, a free exit should be given to the pus, and that such exit was often best obtained by laparotomy, every one now-a-days would probably agree. That was consistent with sound general surgical principles. But it seemed to him that Dr. Cullingworth's surgical zeal carried him far beyond this, and that his axioms, if generally adopted, would lead to much rash, hazardous, and frequently unnecessary interference. He would object altogether, for example, to the acceptance of Dr. Cullingworth's third proposition: "Where distinct swellings are found in the posterior quarters of the pelvis, in connection with recurrent attacks of pelvic peritonitis, surgical relief is usually indicated, and, generally speaking, the sooner such relief is afforded the better." Who was there that had had sufficiently long experience of mere conservative practice who could not call to mind case after case of severe and recurrent pelvic peritonitis accompanied by complete fixation of the uterus with "distinct swellings in the posterior quarters of the pelvis" which nevertheless eventually completely recovered without surgical interference of any kind? Would it not be easy to conceive what disastrous results would follow if every youthful and ardent gynæcologist said, "Here is a swelling in the posterior quarter of the pelvis; Dr. Cullingworth says it must be at once dealt with, therefore I must open the abdomen"? This may possibly be all very well with Dr. Cullingworth's surgical aptitude and experience, but even in his hands nearly one out of every five of his patients died. What would be the results in hands less skilled? So far from admitting that such cases should be interfered with soon rather than late, he believed that removal of diseased appendages should be considered a *dernier* instead of a *premier ressort*, and should be looked upon as a confession of failure to cure. These cases rarely proved fatal *per se*. Doubt-

less they led to a vast amount of pain, suffering, and broken health, which very often fully justified operation, but they could generally wait until we were quite sure that nature could not effect a cure. Once the operation was done it could not be undone. If, however, the history were sufficiently long, and the evidence of structural disease by examination were clear and distinct, then he fully admitted that laparotomy was a perfectly justifiable procedure, and one which he himself constantly resorted to. Take, as illustrations, Cases 22, 23, and 24, in Dr. Cullingworth's tables. No. 22 had been ill two weeks only; her symptoms were "pallor, anxious countenance, severe pain, and high temperature." Surely these were very insufficient grounds for laparotomy, yet this was done after an illness of only a fortnight's duration. Nothing abnormal was found beyond exudation, and even Dr. Cullingworth's zeal stopped short of removing her appendages. In less than a month the patient was discharged well—a result which would certainly have followed had she been left alone. So in 22, the same thing happened in an illness lasting only three and a half months, and in 23 the tubes and ovaries were removed in a girl of eighteen after an illness of six weeks, they are reported as being thickened and firmly adherent; but are such pathological changes certainly incurable? All this indicated very decided practice no doubt, but was it conservative, and was it judicious? Again, no less than seven out of the fifty laparotomies were in cases of hæmatocele, but was it not the fact that the vast majority of hæmatic effusions about the pelvis get well without any interference at all? Six more were in cases of "non-suppurating salpingitis," a condition surely not beyond the hope of spontaneous cure. He trusted that in making these criticisms on his friend Dr. Cullingworth's cases he was not going beyond the limits of legitimate discussion, but he felt it his duty to point out that, in his judgment, the conclusions arrived at were such as could not be safely admitted as correct. The only other point he had to mention was Dr. Cullingworth's extreme partiality for the drainage-tube, which was used in forty-seven out of the fifty cases. In his own operations he hardly ever used it, and yet he certainly should have no fear of contrasting his own results with those which Dr. Cullingworth had given. He felt quite confident that Dr. Cullingworth resorted to drainage with an altogether needless frequency.

Dr. Champneys shared in the feelings of other speakers who had objected to the title of the paper. Pelvic peritonitis was a complication of a very large number of known diseases, and he thought that it was evident that a good many of these were capable of diagnosis, and had indeed been diagnosed before operation. Among these were ovarian tumours, tubo-ovarian cysts, and hæmatoceles. He thought it was of some import-

ance to point this out, because one of the chief objects of the paper was to show that abdominal section was often called for in pelvic peritonitis. In the ordinary sense of the term this was not the case, nor did the cases in the paper bear out that view. But if the heading of the paper were retained, he would ask who in that room had ever seen nine deaths from pelvic peritonitis, or even four deaths (the number of fatal cases after operation in the paper and appendix respectively)? Pelvic peritonitis was one of the commonest of all affections of the pelvis, and the cases were rarely dangerous to life. As regarded the duration of the disease before operation, he did not think that mere lapse of time proved the necessity for operation. Nothing was commoner than for patients to go about for months with this affection, or to lie up after a fashion at home. When they came under observation the temperature was raised, and there was pain, both of which conditions ceased on strict confinement to bed, and might never return after proper medical treatment. As regarded the imminence of the escape of pus noted in some cases in the paper, he did not think there was often any cause for alarm even if this took place. The pus escaped, an ordinary perimetric abscess formed (often with great rapidity), and its evacuation was followed by cure. Hæmatocele very rarely justified an operation. He did not agree with the opening of pelvic abscesses by abdominal section except in rare cases. The advantage of abdominal section was the opportunity which it gave of exploring; but the risk to life was considerable, drainage was in opposition to gravitation, and the risk of ventral hernia was great, for these cases necessarily required drainage, sometimes for a long while. The advantage of superior antiseptics in abdominal opening was more theoretical than practical, for it was quite easy to get excellent surgical results in vaginal operations if we knew how to manage them. On the whole, then, he was still unconvinced that pelvic peritonitis required abdominal section except in rare and exceptional cases.

Dr. Peter Horrocks said that probably there had been a difficulty in choosing a title for the paper which should group these various cases together, and no doubt the title selected was open to criticism; but at the same time there was this common feature about the cases, that they all had more or less pelvic peritonitis. Whilst agreeing with Dr. John Williams that the tendency of cases of this kind was not towards a fatal issue, still he thought it was justifiable to operate when there was constant complaining of pain. He did not think that these fifty cases were such as could be cured by rest. No doubt if given hospital rest and treatment they would be better for a time, but on leaving the hospital they soon relapsed, and so went from hospital to hospital and from physician to physician. He con-

sidered there was internal evidence to prove that it was this class of case that Dr. Cullingworth was treating by abdominal section. It was a very easy matter to obtain a low mortality in abdominal operations by operating on cases with little or nothing the matter with them. He mentioned a case where the patient suffered from leucorrhœa. Her ovaries and tubes were removed, and of course the leucorrhœa, owing to the atrophy set up, disappeared. This he considered unjustifiable. Dr. Cullingworth's first series of fifty cases had a mortality of 18 per cent. They were not healthy organs with which he had to deal, or he might have shown a much smaller mortality. Some of the patients might prefer to bear the pain rather than run so great a risk, but he considered it was quite justifiable, after ordinary means for relief had failed, or had only been of temporary effect, to place the option of abdominal section before the patient with the object of affording permanent relief. In those cases where the Fallopian tubes were distended he called attention to the prominence of pain as a symptom. It was always present; it was that which drove the patient to the doctor; it occurred during the periods (dysmenorrhœa) and between the periods; it was a constant symptom. Menorrhagia or metrorrhagia or both were common, but not so constant as pain. He was surprised to hear Dr. Playfair say that no one would think of removing tubercular ovaries and tubes. He mentioned the case of a girl on whom he operated about four years ago. Bacilli were found, and she had general miliary tuberculosis of the peritoneum in addition to tubercular disease of the ovary. She was living and well at the present time.

NOVEMBER 2ND, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—47 Fellows and 12 visitors.

Charles William James Chepmell, M.D.Brux. (Brighton), was declared admitted as a Fellow of the Society.

The following gentlemen were elected Fellows of the Society:—James Henry Ashworth, M.D.St. And. (Halstead); Robert Davis, M.R.C.S. (Epsom); Herbert M. Nelson Milton, M.R.C.S. (Cairo); and Walter William Hunt Tate, M.B.Lond.

LARGE PYOSALPINX SIMULATING TUBO-OVARIAN ABSCESS.

By CHARLES J. CULLINGWORTH, M.D.

THE specimen was removed by operation August 15th, 1892, from an unmarried girl, aged 21, who first presented symptoms of illness three weeks previously. It consisted of an enlarged and inflamed Fallopian tube which had become dilated at its distal extremity to an unusual degree, and contained more than a pint of fœtid pus. The dilatation began so abruptly and was so extensive that the case was at first regarded as a suppurating tubo-ovarian cyst. The reasons for regarding the suppurating cavity as a portion of the tube were as follows:

1. The lining of the cavity was continuous with that of the tube.

2. The microscope showed the presence of unstriped muscular tissue in the cyst-wall.

3. The ovary was quite distinct and perfectly normal. (It could not be shown, as it remained in the patient's abdomen.)

The same reasons went to show that it was not what Mr. Sutton had described as ovarian hydrocele, in which case the ovary would have been found either in the cyst-wall or projecting from it on the inner side.

The specimen was of considerable importance as showing how closely a pyosalpinx might simulate a suppurating tubo-ovarian cyst. Dr. Cullingworth felt sure that some museum specimens, described as tubo-ovarian cysts or abscesses, would turn out, on careful examination, to be of the same character as the preparation now exhibited.

The tube on the opposite side (the left) was somewhat of the shape of a horse-shoe, but more angular. Its walls were thickened and its cavity was dilated along its whole length, occluded at its distal extremity, and filled with pus. The left ovary, like its fellow of the opposite side, was normal and was not removed.

Dr. W. S. A. Griffith wished to draw attention to the frequency with which some speakers referred to "gonorrhœal" salpingitis, as if this were a cause easily ascertained; his experience being that it was neither easy nor common to obtain satisfactory evidence of the gonorrhœal origin of pelvic inflammations, and that these most frequently occurred after abortion, labour, and various methods of intra-uterine treatment, especially by the use of intra-uterine pessaries and tents, in all of which the probable cause was a septic one.

RUPTURED TUBAL PREGNANCY.

By Aust Lawrence, M.D.

Dr. Aust Lawrence showed a specimen of ruptured tubal pregnancy which he had removed successfully three weeks ago.

The history was typical, showing the absence of menstruation for seven weeks; then several severe attacks of abdominal pain at intervals of a few days, the passing of a membrane, and symptoms of early pregnancy. The local condition showed a fulness in the right groin and to the side and front of the uterus.

Dr. Aust Lawrence remarked that, in all of the six cases which he had operated on, pain was the earliest and most prominent symptom, and existed for some days (in this case seventeen days) before uterine hæmorrhage set in.

He advocated thorough drainage, and, if necessary, washing out of the pelvis in all these cases.

The specimen showed the patent ostium abdominale of the Fallopian tube. The gestation sac was partly in the tube and partly in the broad ligament.

The abdomen was full of blood, partly liquid and partly clotted.

HÆMATOSALPINX, HÆMORRHAGIC AND CYSTIC OVARIES.

By Leith Napier, M.D.

Mrs. C—, aged 33, married thirteen years, five children; last pregnancy three years ago, ended in abortion. She had been regular until four months before the present illness. Eight weeks before admission, when at the time of

her period, she suffered sudden acute pelvic pain, followed by a flow of bright blood *per vaginam;* this hæmorrhage, with very short interruptions, had been continuous since.

On examination the uterus was found of normal size; a retro-uterine cystic tumour occupied the left posterior quarter of the pelvis. The patient rested in bed from the 13th to the 24th September, 1892, when, declining operation, she went home. She returned on the 30th September, suffering from greatly increased left iliac, sacral, and hypogastric pain. The hæmorrhage was almost arrested. Vaginal examination showed impaired uterine mobility on the left side. There was tenderness on bimanual examination. A small cyst of the left broad ligament was noted, also a tortuous tubular body occupying Douglas's pouch, and running in the direction of the left and upper part of the true pelvis.

On November 3rd the abdomen was opened, and a blood-cyst of the left broad ligament about the size of an apple, and both tubes and ovaries, were removed.

The right appendages lay behind and above the uterus, and were adherent to the inflamed structures on the left of the uterus. There were a good many adhesions; some of them were very firm. The left appendages with the thin-walled blood-cyst were then removed.

The left appendages consisted of an enlarged ovary, a dilated Fallopian tube, curved round the end of the ovary and firmly adherent to it, and a piece of broad ligament. The ovary measured 2 inches by 1¾ inches. On dividing it, a blood-clot measuring 1½ inches in its long diameter was found; the chief part of the clot was within a cyst of considerable size, but the blood had also entered the ovarian tissue. There were three small blood-cysts in the cortex. A small area of apparently normal ovarian tissue lay between the large blood-clot and this capsule. The Fallopian tube was tortuous and dilated; its walls were thickened, its outermost inch was converted into a nearly globular cyst of the size of a large cherry; this was ruptured on its upper aspect, it

contained a quantity of firm blood-clot. The cyst-walls showed appreciable thinning as compared with the thickened wall of the tube proper. In two places near its uterine end the lumen of the tube was partially obliterated by old adhesions. The abdominal ostium was entirely occluded, the fimbriæ being represented by a small tuft on the wall of the tube cyst.

The right appendages were similarly altered, but to a less marked extent. The ovary was enlarged and cystic. The Fallopian tube was tortuous and dilated with thickened walls, and its abdominal ostium closed; it was curved back on itself so as to approximate its uterine and abdominal ends, and was very firmly adherent to the ovary.

The patient made an excellent non-febrile recovery.

The ovarian tissue was fairly normal; it contained numerous Graafian follicles, many of which showed thickened walls and considerable dilatation. The sections made of the cyst and its contents, of which there were a large number, revealed no trace of fœtal or placental structures. The blood-clot was organising in parts, and showed a tendency to break down in others.

DERMOID CYST.

By A. L. Galabin, M.D.

ADJOURNED DISCUSSION ON DR. CULLINGWORTH'S PAPER ON THE VALUE OF ABDOMINAL SECTION IN CERTAIN CASES OF PELVIC PERITONITIS.

DR. GERVIS, after paying a tribute to the value of Dr. Cullingworth's gynæcological work and the importance of his present paper, expressed the opinion that if the title adopted by Dr. Cullingworth for his paper were carefully considered the objections to it stated by some of the speakers at the last meeting would be much lessened. Dr. Cullingworth did not appear to propose operative measures in all cases of pelvic peritonitis, as might be supposed from some of the remarks which had been made, but only in certain cases, and these cases would appear from the third of the series of propositions Dr. Cullingworth had drafted to be cases of "recurrent peritonitis," associated with "distinct swellings" in "the posterior quarters of the pelvis." And with this proposition he (Dr. Gervis) could not hesitate to agree. It was true that many of these cases were not fatal; but in many there was more than one element of risk, and in all there was much positive suffering, and more or less permanent invalidism and disablement, for the relief of which ordinary medical measures were of little avail. Proposition 6, Dr. Gervis thought, held true of the majority of cases of suppuration in the pelvis, but not infrequently cases occurred which might be opened through the vagina. On Proposition 10 Dr. Gervis would remark that in addition to the causes of persistent pain after operation there noted, actual neuritis from pressure of inflammatory deposits or spread of inflammation held a place, but that with regard to it the prognosis was favourable. He (Dr. Gervis) could not find in Dr. Cullingworth's paper the ten cases of hæmatocele to which Dr. J. Williams alluded at the preceding meeting; indeed, he could scarcely make out Dr. Cullingworth's own number of five, and in these the hæmatocele did not always appear to be the determining cause for operation. But on the general question of abdominal section in cases of hæmatocele Dr. Gervis agreed with Dr. Williams that it was rarely called for apart from the occurrence of suppuration. Dr. Gervis was also disposed to agree with Dr. Williams's remarks with reference to operation in cases of salpingitis associated with tubercle. Unfortunately, however, the diagnosis of tubercular salpingitis was not always easy. As to some of the occasional sequelæ of the operation, to which Dr. Williams referred as seriously diminish-

ing its remedial value, such as the persistence for a time of a sinus, or the occurrence of a hernia in the line of incision, Dr. Gervis thought that although undoubtedly vexatious, they were hardly of sufficient importance to outweigh the great gain attained by the procedure in question.

Mr. Mayo Robson said that although he had not the advantage of hearing Dr. Cullingworth's paper, he had had the privilege of reading the abstract and tables, and of seeing an account of the discussion on it at the last meeting of the Obstetrical Society. As he had had some experience in treating the class of diseases described, he thought that it might be of interest to the Society if he took part in the discussion and gave his own conclusions. He found it somewhat difficult to discuss under the one heading of pelvic peritonitis so many different diseases as were included in the paper, and as there could be really no difference of opinion as to the advisability of removing ovarian and other cysts associated with pelvic inflammation, which included half of the cases in Dr. Cullingworth's paper, his remarks did not apply to such; but he would state in passing that it was often impossible to diagnose between such cysts and inflammatory affections of the appendages. He preferred, although the discussion was in a special Society, to discuss the matter as a general surgeon and on general principles, as he felt sure that it was seldom necessary to depart widely from these in treating such cases of localised peritonitis. If they had an abscess in the neighbourhood of the cæcum, they did not hesitate to open and drain it, lest it burst into the peritoneal cavity and produced death from general peritonitis; and why should there be any argument as to the propriety of dealing with a pelvic abscess on similar principles? If a patient suffered from recurrent attacks of perityphlitis so called, and the disease depended on recurring inflammation of the appendix vermiformis, they did not hesitate to remove the appendix; this he had done within the last year on four occasions, not only converting chronic invalids into perfectly healthy persons, but removing from them the constant menace of an attack more severe than usual, which might end fatally. Why should anyone argue that a similar, though larger, collection of pus in the Fallopian tube should not be treated on the same principles? Some months ago he saw a young patient suffering from frequently recurring attacks of pain over the pylorus, associated with emaciation, and not yielding to treatment skilfully applied by the physician in charge of the case. From the history he diagnosed adhesions over the pylorus following on gastric ulcer. He opened the abdomen and separated the adhesions, effecting a complete cure, the patient being now robust and well. Why should it be thought unwise in recurrent pelvic peritonitis to separate adhesions, as a rule far more extensive than these, and which not only produced pain lasting for a week before and a week after

each menstrual period, but which produced distress on walking with pain on defæcation and micturition and as a rule dyspareunia and sterility? And in such cases, if absolute rest and general treatment had failed to relieve, and if the cause be discovered to be a removeable one, why should one hesitate to remove it, and relieve the patient from the life of a chronic invalid? Where life was endangered, surely no one could dispute that an operation which gave a good chance of cure, and which need have a mortality of not more than 5 to 7 per cent., was wise. But even where, as in the greater number of cases of recurrent pelvic peritonitis, chronic invalidism and suffering were perfectly certain, and danger might at any time arise, it seemed to him that the patient and her friends should join in the consultation and help in the decision as to operation or not; reproach was then out of the question. It was well known that pelvic hæmatocele would nearly always clear up without operation, and unless the temperature and pulse indicated suppuration he should certainly prefer to leave such cases to nature; and out of a large number of cases he found he had only operated on two such, one of which had suppurated and burst into the rectum, threatening death from hectic fever and exhaustion, and in the other the sac had become converted into a horribly fœtid collection of blood and pus. In the list of cases, sixty-five in number, of which he had handed round a printed record, it would be found that he had given details, as far as possible on Dr. Cullingworth's lines, of all his hospital and private cases. It would be seen that out of sixty-five cases there had been two deaths referable to operation, thus giving a mortality of 3 per cent., which he should think disposed of one of the arguments used by opponents of the radical treatment in these cases. On several occasions he had simply opened and drained abscesses through the peritoneum after thoroughly cleansing the pus-containing cavity, and although in several such cases he had had brilliant results, he quite agreed with Dr. Cullingworth that such a procedure was not so satisfactory as removing the abscess sac, which was frequently a distended tube; at times, however, it must be the wiser course. He did not agree with those speakers who argued that such abscesses could usually be safely attacked from the vagina. He had looked through and carefully considered Dr. Cullingworth's conclusions, and found no difficulty in agreeing with them all in the main, although there might be, and probably was, some difference in the detail of the procedures which they would each follow; for instance, he seldom flushed out the peritoneal cavity, and thought he drained less frequently. He did not agree with those who argued that this class of cases very seldom ended fatally if left to nature, as he had known a number so to do. In no single case had operation been done without consultation with colleagues or other medical men, and without the fullest explanation to patient and friends; and in no case

had operative measures been adopted before milder means had had a fair trial. Healthy organs had never been removed; and if the disease had been on one side alone, the disease had been removed and the healthy appendage left. In none of the operations here given had normal ovaries been removed for the cure of nervous symptoms, as in the very few cases operated on by him some years ago on this account; he found so little relief given that he had not been tempted of late to try to effect a cure of these cases by surgical means. In all his cases gross organic disease, as shown by the presence of a tumour, had been the reason for employing surgical measures, and he could not see why sentiment should lead him to leave diseases which incapacitated and endangered life whether he was dealing with a Fallopian tube or a knee-joint. Their rôle as surgeons was to effect a cure, and if after trying medical means failure was proclaimed, then they could with all justice and with every show of reason adopt some radical and more certain method.

Mr. Knowsley Thornton said that he had taken Dr. Cullingworth's paper and tables and studied them carefully, endeavouring to put himself in the position of a student who had to form an opinion on these data alone, and the result was that he would be entirely deterred from sanctioning or performing these operations. First there was the terrible mortality, 18 per cent., carrying one back to the early and unsuccessful days of abdominal surgery—a mortality which could not in any way be justified by the mortality of the diseases themselves when left alone. There was the extraordinary fact that nearly half the cases were incomplete; six had sinuses and four hernia, both, in spite of what Dr. Gervis had said to the contrary, very real miseries, often far greater sources of weakness and pain than the diseases which the operations were undertaken to cure. He would not dwell here upon the remarkably frequent use of the drainage-tube and flushing, both in his opinion calculated, when used in this indiscriminate manner, to be sources of danger rather than of safety. So much for the opinion which he should have been bound to form if he had nothing but Dr. Cullingworth's paper and tables to guide him. He had, however, taken the trouble to go over his own case-books, and found that he had in the whole of his practice, extending over twenty years, operated eighty-seven times in this class of case with six deaths, or a mortality of about 7 per cent.; and it must be remembered that all his early work was done in times far different from the present, when the experience of many brilliant surgeons has taught, or ought to have taught, those who now begin this work how to operate in much greater safety for the patient. In the whole series he had only three incomplete cases, and his mortality would have been only half what it was if he had not resolutely completed three other cases,

recognising the fact that these operations, if only partial, would be far better let alone altogether for the patient's sake. He had begun these operations with the enthusiasm of the young surgeon, he now performed them less and less often, finding with increased experience that natural cures were far more common than he had supposed, and that the results of operation were not always so brilliant as was anticipated. Care in making the operations aseptic, and especially in protecting the transfixing ligatures from any septic contamination, and using very fine pure Chinese twist, he considered the chief elements of success. Sinuses and pain after operation, he believed, both arose chiefly if not entirely from septic ligatures. He had only had one persistent sinus, and that was in an early tubercular case in which he used much thicker silk than he ever did now. He had had one or two fæcal fistulæ, and one of his deaths was due to this misfortune; the others had healed spontaneously. In this connection he would point out that two of Mr. Mayo Robson's cases died of fæcal fistula, clearly the result of the operation, and should be included in his fatal cases—at once doubling the percentage mortality, and bringing it up very much to his own. He believed that if only urgent and proper cases were operated upon it would never fall much below a 6 per cent. level. Were the diseases for which the operations were undertaken as fatal even as this? He doubted it, he had never seen a fatal case himself, Dr. John Williams had seen two,—surely this was not much for their united experience. Then, again, how few fatal cases were ever published! He also would greatly discount recurrent peritonitis; much was called local peritonitis which had no claim to be so named. He was frequently seeing cases said to be suffering from recurrent attacks of local (pelvic) peritonitis, but failed to recognise the symptoms, so that when he was told cases suffered from recurrent attacks of this disease he was very sceptical, and he did not find many real cases of peritonitis in Dr. Cullingworth's list. He doubted the wisdom or justifiability of surgical interference in hæmatocele unless it had suppurated, and he thought many collections of pus in the pelvis were much better opened *per vaginam*, where drainage was not against gravity. He criticised in some detail Dr. Cullingworth's concluding propositions, and asked on what grounds he said that salpingitis was a painless affection. The double or complete operation he was inclined to think more satisfactory in the long run in most cases, but some were quite successful with the appendages only removed on one side. He did not wish to pose as the opponent of all operative interference in these cases; some undoubtedly demanded operation; some operations were, however, failures in point of cure. Others and the majority were, however, brilliantly successful. He would not, however, like it to go forth from the Obstetrical Society

and from the consideration of the paper that Dr. Cullingworth's propositions were commended by all, or an encouragement would be given to young surgeons all over the country to try their prentice hands at these admittedly extremely difficult and dangerous operations, which were, in his opinion, already too common, and the general results in which did not justify the heavy mortality attending them any more than the natural mortality of the diseases for which they were performed.

Mr. JOHN W. TAYLOR said that he heartily agreed with the general tenour of every one of the propositions laid down by Dr. Cullingworth. Whether the classification of the cases on which they were founded was a wise one or not, he was glad to recognise that all of the cases under discussion were unmistakably inflammatory, and all resulted in decided peritonitis. There was no question in this controversy of the removal of cirrhotic or cystic ovaries. The discussion was at least narrowed down to the question of removal when distinct peritonitic symptoms were, or had been present, and on this question he was largely in agreement with the author. The only fault he had to find (if he might presume to say so) was that even now the propositions dealt with too wide a subject—that the cases which Dr. Cullingworth had brought forward for discussion had only the clinical feature of peritonitis as their bond of union, and that one or two of the propositions as applied to the whole number of cases might be described as somewhat crude or rough. In his own experience he found that gonorrhœal inflammatory disease of the appendages was a special disease, due to a specific contagion, possessing many features in common with other inflammatory affections of the appendages, but quite distinct from them in its course and in its results. And here he would suggest to Dr. Cullingworth that virginity by no means precluded the possibility of this disease. Not a few of the cases of purulent vulvitis and vaginitis met with in early childhood were found to be due to accidental infection, and such cases might result in typical gonorrhœal pyosalpinx years afterwards, when the primary disease had been lost sight of. If the disease, then, be a distinct and special one, equally distinct and definite should be the rules governing its treatment. It was to this disease (because it was a contagious one, and the uterus as a centre of contagion was always left behind) that the advice of complete removal of the appendages on both sides peculiarly applied. If operation be required at all in this disease it needed to be thorough. Though only one tube and ovary appeared to be involved, if the cause be gonorrhœal the appendages on both sides should in his opinion be removed. He had never known a tube and ovary left in the operative treatment of this disease without a more or less disappointing sequel. On the other hand, not all inflammatory affections of the appendages were gonor-

rhœal. The naked-eye characters might be almost identical: there might be extensive adhesions, abscess of the ovary, or a limited purulent peritonitis around the appendages (such cases were not uncommon after parturition, or might occur in the course of the exanthemata, or might result from an inflamed ovarian cyst or a suppurating hæmatocele). Then he believed that the nature of the case was, and its treatment should be, radically different. Here, if the inflammatory affection were confined to one side of the pelvis, there would be no need to remove the appendages of the opposite side. He found that such cases made good and permanent recoveries when the operation was strictly limited to the visible site of disease, many of the patients continuing fertile and becoming repeatedly pregnant after the operation for the original inflammatory attack and consequent peritonitis. This was a distinction which he believed to be insufficiently recognised, and which had a most important bearing on their practice. He could not agree with those speakers who urged that operative treatment should be withheld, and only used as a last resort. This would foster a practice which was always attended by bad results and surgical discredit. Those who had frequently to operate for the conditions under discussion were taught by experience when operation was required and when it was best undertaken; and although "practice makes perfect," and cases which at first it seemed impossible to do anything with became comparatively easy as time went on, they could not allow, in justice to their patients or themselves, that only cases of last resort should have the benefit of their skill. His own practice on diagnosing a case of acute or subacute tubal disease, unless there be special urgency was to send the patient to bed for a fortnight or a month, administering bromides. If at the end of that time there be no improvement an operation was usually necessary. The circumstances of the patient were sometimes of first importance. The case of a wife, for example, who had contracted gonorrhœal salpingitis through no fault of her own, and was subsequently deserted by her husband; who struggled to maintain herself and her children, but lost situation after situation on account of recurrent attacks of peritonitis, called for radical treatment and cure with no uncertain voice. On such a case he had operated yesterday, and he had great reason to hope that the operation would enable the patient to earn her own living, and keep herself and children out of the workhouse. If Dr. Cullingworth would allow him to say so, he thought his operation mortality would be considerably reduced as time went on. Acute pyosalpinx must always be dangerous, but the operative removal of the more chronic collections of pus should be almost uniformly successful. In his own hospital, where operations for these diseases were not infrequent, one of the operating staff had worked for upwards of

two years without a death, and another had a similar record for upwards of a year. He had but little doubt that from the practice of these two surgeons a list of fifty consecutive cases might be compiled, all of which had been successful. With Dr. Cullingworth's remarks regarding operative dangers and detail he entirely agreed. The rectum on the left side was a frequent source of danger and difficulty. It was usually involved in the adhesions, and its separation, as a structure not to be removed, from an hypertrophied tube and bag-like ovary was often very difficult. The fact that the permanent attachments of the rectum were posterior, while those of the ovary and tube were anterior, was of considerable help when the main adhesions to the back of the uterus had been broken down and separated. All of these cases where extensive adhesions were undone needed drainage. Dr. Cullingworth's practice in this respect was, in his opinion, entirely to be commended.

Dr. Heywood Smith said that some months ago Dr. John Williams and Dr. Champneys had issued a quasi-authoritative manifesto, wherein they feebly attempted to apply the brake to the advanced gynæcology of the present day, and after the speech they had just heard from Mr. Thornton they must reckon him as a third who upheld a retrogressive policy with regard to the subject that was under discussion. Mr. Thornton had referred to ventral hernia as of frequent occurrence and of grave import, but such a sequence did not often happen, and was in no way to be weighed against the chronic invalidism and pain that the operation was intended to obviate; and as to calling it an operation of "expediency," it was in most cases an operation of necessity. He entirely agreed with Dr. Cullingworth's sixth proposition, that "it is safer to attack cases of pelvic suppuration from above than from below." Some of those who had attended the Congress at Brussels had seen M. Ségond do Péan's operation on a case of ovarian abscess. He first of all removed a uterus *morcellement*, and then proceeded to puncture the abscess—a method they had considered wholly unjustifiable. M. Ségond contended that the removal of the uterus caused the uterine appendages to dwindle; but they would require a large number of necropsies, after a long interval of time, before they would be in a position to prove such a statement. Then, again, with regard to what Dr. Champneys had said as to drainage *per vaginam* being more favourable owing to gravity, they must remember that when a woman was lying supine the drainage-tube was not wholly in a position downwards. Mr. Thornton had said that few patients died in these cases if left alone. He would like to know on what grounds Mr. Thornton made that most extraordinary statement.

Mr. Skene Keith drew special attention to the length of time which often elapsed before recovery was complete after these

operations. Patients were frequently under the impression that after operation they would be well in a few weeks. If, however, they understood that instead of weeks it might be many months before the return to health would be perfect, they would be more willing to try, in the first place, what rest would do. He strongly advised complete rest combined with general treatment in all cases where there seemed to be any chance of recovery without undergoing a mutilating operation; for unless the ovaries were hopelessly diseased their removal was a grave injury. At the end of six months comparatively few of these operation cases were quite well, while at the end of two years the results would be found to be very satisfactory.

Dr. CULLINGWORTH, in reply, thanked the Society for the consideration that had been given to his paper, and the length of time that had been devoted to its discussion. Before answering the various speakers he wished to remind the Fellows that the discussion had necessarily taken place under disadvantageous circumstances. The chief value of the paper consisted in the full clinical and pathological details it contained of each of the fifty cases in the printed table. Those details were not yet before them. The paper was much too long to be read *in extenso*, and had only been presented to the meeting in a greatly abbreviated form. It was next to impossible to give a satisfactory clinical picture of a case either in the form of a table or a summary. When his critics were put in possession of all the facts, which they would be shortly, for the Council had generously undertaken to publish the full text of the paper in the 'Transactions,' they would find that many of their criticisms were founded on a misapprehension.

The objection raised by Dr. John Williams and others to the title of the paper had already been met to a certain extent by Dr. Gervis. He (Dr. Cullingworth) did not know any other title that would have been sufficiently distinctive on the one hand, or sufficiently comprehensive on the other. Pelvic peritonitis was the one condition that was common to all the cases. The object of the paper was to show that, underlying many cases of pelvic peritonitis, especially where the inflammation was recurrent, there was definite disease which could only be properly dealt with by surgical means. The fact of recurrence showed persistent irritation, and the cases here presented went to prove that the source of irritation was often a deep-seated suppuration, either in the tube, or in the ovary, or in both. The words "certain cases" in the title were intended to limit the discussion to those cases in which there was a definite swelling in one or both sides of the pelvis. It was in those only that he advocated and practised abdominal section.

With regard to many of the operations having been performed for new growths, this was perfectly true, but it was not true

that these were cases which every one would have recognised and operated upon. Of new growths in the sense of there being a clearly defined abdominal or pelvic tumour, there were none; and in not a single instance had the presence of a new growth been previously suspected, either by the patient herself or anyone else. It was one of the surprises that a series of cases like this brought out, that the source of the inflammation in many cases of recurrent pelvic peritonitis was suppuration of an unsuspected ovarian cyst. Such cases had hitherto been diagnosed and classified under the vague heading of pelvic abscess. When they came under observation the signs of tumour were masked by the matting and exudation due to the secondary peritonitis, and by the co-existence of inflammatory disease of neighbouring parts. The number of cases, in his own necessarily limited experience, in which new growths had been found at the time of operation was a revelation to him. In many cases of pelvic peritonitis, the swellings, instead of disappearing as the acute attack subsided, often continued to grow and give trouble. The explanation was that, in these cases, the lumps were not masses of inflammatory exudation, as they were popularly supposed to be, but new growths in a state of inflammation. Amongst the fifty cases tabulated there were no fewer than nineteen in which new growths were present. Of these fourteen were suppurating ovarian cysts, and five were ovarian cysts that had become inflamed, one of them in consequence of intra-cystic hæmorrhage, and the remaining four owing to inflammatory disease of neighbouring parts. Of course, as experience was gained, one could often predict with an approximation to certainty that, in the midst of a given pelvic swelling, such and such a definite mass of disease would be found. In other words, these operations had added to our knowledge and improved our diagnosis of pelvic disease.

He would refer any of the Fellows who were interested in this question to a series of six cases of abdominal section for peritonitis due to suppuration of previously unsuspected cysts of the ovary, which happened to be all under treatment at the same time, and which he had reported in the 'Lancet' ("Mirror of Hospital Practice") for the first two weeks of July of the current year. There would be found in that series two remarkable cases in which the patient was suddenly seized with symptoms of acute pelvic peritonitis. It was determined to open the abdomen in order to avert, if possible, a fatal termination which otherwise seemed inevitable. Neither of the patients knew anything of any tumour; yet, on opening the abdomen, each was found to have not one, but two large suppurating ovarian cysts, one on each side of the body. The signs of their presence were indeed obscured by the inflammation and matting to which they had given rise, and the operation for their removal presented unusual difficulty.

But once the removal accomplished, and the immediate risks of the operation survived, these two women were quickly restored from a condition of extreme danger to one of almost perfect health and comfort.

Dr. Williams had spoken of ten cases of hæmatocele. This was evidently an error, as there were not more than eight, even if a case of hæmatoma of the broad ligament were included. The eight cases included Nos. 11, 14, 22, 23, 31, 34, 44, and 47. In No. 11 a small hæmatocele had formed at the mouth of each Fallopian tube, the hæmorrhage having obviously been a mere incident in the course of a chronic salpingitis. In No. 14 there was a small suppurating hæmatocele on one side, connected with purulent salpingitis of the same side. No. 22 was a case in which an exploratory operation was performed for what was thought to be pelvic suppuration. The left broad ligament proved to be the seat of the swelling, the characters of which led to the diagnosis of a hæmatoma. The abdomen was thereupon closed. The diagnosis was afterwards confirmed by the spontaneous disappearance of the swelling. The patient did perfectly well. No. 23 was also a case of doubtful diagnosis; after missing two menstrual periods the patient had had continuous uterine hæmorrhage for three and a half months, and there was an oval swelling the size of an orange behind the uterus and left broad ligament. The swelling proved to be an old hæmatocele, probably the result of a so-called tubal abortion. No. 31 was a case in which an exploratory incision was made on account of a pelvic swelling and almost complete disablement, persisting six months after the disappearance of an unusually extensive hæmatocele. Nothing was found except pelvic adhesions and the remains of the old hæmatocele. One of the ovaries was damaged during the separation of the adhesions, and had to be removed. In the remarks appended to the report of this case, he had acknowledged that the patient, who had made an excellent recovery, would have done just as well without any operation. In No. 34 there was a hæmatosalpinx on one side, and a hæmatocele on the other, the latter being due to hæmorrhage into, and subsequent rupture of, a cyst of the broad ligament. The blood was cleared out, the diseased parts removed, and the patient, who was exceedingly ill before operation, made an excellent recovery. No. 44 was the case of a patient who had been ill for two years, and who, after improving greatly under a course of hospital treatment, was readmitted three months later, having been laid up ever since her discharge. There was a pelvic swelling on the right side, and operation was advised. The right tube was distended with blood-clot, and measured 5¾ inches in circumference. Outside the tube there was a quantity of firm clot. There was some suppuration during convalescence, but the patient was able to leave the hospital in

a month, and three weeks later the sinus closed and recovery was complete. The last case, No. 47, was also a hæmatosalpinx communicating with a small hæmatocele amongst old pelvic adhesions, in a patient the subject of tubal disease of six years' duration. She made an excellent recovery after the operation, and went home well. It would thus be seen that not one of the eight cases was a typical hæmatocele, or was operated upon under the supposition that a hæmatocele was present. The few operations that he had performed for hæmatocele had been intentionally omitted from the paper, as not coming within its scope. The subject might perhaps be profitably discussed on another occasion.

Much had been said by Dr. Williams and others about the mortality. The mortality in the first series of fifty cases was 9; in the second (mentioned in the postscript), 4. Dividing these into groups of twenty-five, the mortality was as follows:—In the first twenty-five 7, in the second 2, in the third 4, in the last none. The mortality of the first twenty-five might be reasonably regarded as the result of inexperience, and that of the last seventy-five, viz. 8 per cent., as representing his present mortality.

In connection with this question of mortality it should be stated that, of the fifty patients, fifteen were so ill at the time of operation that it was evident to all who saw them that a fatal issue was rapidly approaching. Of these fifteen, four died. In other words, the attempt to save life was successful in eleven of the fifteen cases, and unsuccessful in four. Of the other five patients who died, four were totally incapacitated for work of any kind; and the fifth, though able to do light work occasionally, was laid aside by an attack of pelvic inflammation every few days.

Dr. Williams had said that the mortality diminished as the operation came to be performed for conditions more nearly approaching those of health. He (Dr. Cullingworth) thought that the insinuation conveyed in this statement was unfair. It was not the case that his later and more successful operations were undertaken for less serious conditions, or were in any degree less complicated or less difficult than his earlier ones.*

Dr. Williams had referred to a paper by Schmalfuss as containing the only reliable account with which he was acquainted of the proportion of cases in which pain persisted after these operations. He held in his hand a copy of Schmalfuss's paper. The title of it was "Castration for Neuroses." The object of Hegar's operations there recorded had nothing in common with the object he (Dr. Cullingworth) had in view in the operations

* Dr. Williams, who was unable to be present at the adjourned discussion, has since assured me that he did not intend this remark to apply to my cases. I accept this disclaimer with much pleasure, but as the remark has been made public, I think it right that my reply should have equal publicity.—C. J. C.

described in his paper. When an operation was undertaken for the relief of pain, irrespective of any obvious lesion, the operator must be prepared for disappointment. On the other hand, where there was obvious disease, extirpation of the source of inflammation invariably cured the patient, provided she survived the operation. The occurrence of a little subsequent pain no more constituted a failure than did the occurrence of a shooting pain in the mamma after the removal of a cystic tumour of that organ. As a matter of fact, persistent pain had been met with in singularly few of his cases. In one it was clearly feigned, and in the rest the patients were of a distinctly neurotic type, and their improved general condition showed the pain to have no serious significance. The few instances of hernia and unhealed sinuses occurred in cases where, from special circumstances, collections of matter were drained instead of being extirpated. In such cases hernia was almost inevitable.

Dr. Williams had noted that two cases required a second operation. In both cases the fault lay not with the operation, but with the operator. The cases were early ones, and he had not acquired the requisite boldness. Hence the need for a second operation, which in both instances cured the patient.

He could not agree with Dr. Williams that an after history of twelve months was insufficient to decide whether or not an operation of this kind had been successful. In 19 of his cases, however, he had tidings of them after a longer period. Thus 11 patients had reported themselves between one and two years afterwards, 3 between two and four, 2 between four and five, and 3 upwards of five years. Of the rest, the majority had reported themselves at varying periods within the year, and the remainder, about eight in number, might fairly be considered cured, for his experience of these patients was that they came up if they found the least cause for anxiety. Some had been traced since the paper was handed in, and a note of their condition would be added in correcting the proof.

The cases selected by Dr. Williams for special comment presented difficulties only because the Fellows were not as yet in possession of the full record. He would not, therefore, occupy the time of the meeting by going into them.

The cases which Mr. Doran had held up as the few examples in the list of really good surgery were just those of which he (Dr. Cullingworth) was not particularly proud. They were cases of simple evacuation and drainage of suppurating cavities, where the source of suppuration was not removed. Such treatment involved prolonged suppuration, weeks or months of bed, an incomplete cure, and, owing to the impossiblity under such circumstances of satisfactory healing of the abdominal wound, sooner or later a hernial protrusion. He knew better now than to leave suppurating cysts stitched to the abdominal parietes if

they could possibly be removed in their entirety. Formidable adhesions did not frighten him as they once did.

Mr. Doran expressed surprise that in Case 39, where there was a communication between the suppurating cyst and the rectum, separation and removal of the cyst were accomplished without the occurrence of a fæcal fistula. If Mr. Doran would refer to Case 25, he would find the same good result followed a similarly bold procedure there, and he would also note, on referring to Case 48, that a communication with the vagina gave no further trouble after the removal of the adherent cyst. The fact was that such openings closed of their own accord, so to speak, as soon as the source of suppuration was removed.

With regard to Péan's method of treating these cases by vaginal hysterectomy, which had been advocated by Ségond at the Brussels Congress, he entirely agreed with the objections Mr. Doran had indicated. There was, however, another even stronger objection. In the cervical canal the uterus possessed an outlet for its discharges, and therefore suppurative inflammation of its lining membrane would not go on indefinitely as in the case of the Fallopian tube, which had practically no outlet at all, or only in a vicious direction. The argument, therefore, that the uterus, being the starting-point of the pelvic suppuration, should be the first object of attack, fell to the ground. It was well known that one portion of a mucous tract might be recovering while another was acutely inflamed, and this was what was constantly happening in the case of the genital tract.

Notwithstanding Mr. Doran's cautious attitude in this discussion, he had not always spoken so uncertainly. In a paper published in the 'Transactions of the Medical Society of London' (vol. xiv, 1891, p. 245) Mr. Doran wrote as follows:—"Oöphorectomy [by which name Mr. Doran persisted in speaking of this operation, although the removal of the ovaries, so far from constituting the operation, was not always an essential part of it] is the best operation in a large class of chronic cases where subacute seizures occur frequently and at gradually shortening intervals, and where careful bimanual palpation proves the existence of a mass, usually tender, on one or both sides of the uterus. The tube and ovary are degenerate and useless. The more cystic they become, the more discomfort they cause, and the more probably will they form adhesions to intestine, omentum, &c. Pyosalpinx, a not unfrequent complication, is in itself a source of danger to the patient. The health suffers, the patient is crippled, and, if poor, incapacitated from earning her bread." He thought, after that, he might venture to claim Mr. Doran as a supporter.

The necessity of invoking the aid of gravitation in order to obtain efficient drainage was a notion that had long since been exploded, and he was surprised to hear Dr. Champneys advo-

cating the treatment of pelvic suppuration *per vaginam* on that ground. Experience had abundantly proved that the force of intra-abdominal pressure (a force which was often greatly underestimated) was amply sufficient to drive all the fluid out of the abdominal cavity as fast as it accumulated, if only a means of exit were provided. The fluids effused would pass upwards through the lower angle of the abdominal wound quite as readily as through the vaginal roof. It was unnecessary even to use a syringe.

As to the opening of pelvic abscesses from below, the proceeding was both dangerous and inefficient. It was far easier to keep the abdominal wound aseptic than to ensure the asepticity of a wound in the vaginal roof or in the rectum. The inefficiency of the method could be shown by reference to one of the cases in the table (No. 48). In that case there was a sinus in the vaginal roof communicating with an abscess cavity in Douglas's pouch. The temptation was great to treat the case by enlarging the opening and washing out and draining the cavity. He decided, however, to approach the disease from above, and found, as he anticipated, a large suppurating ovary, which he succeeded in separating and removing. On examining the specimen the vaginal sinus was found to communicate with only one of a number of abscesses, with which the whole ovary was beset.

Had he been content with enlarging the vaginal sinus, little or no relief would have been given, for only one of many abscess cavities would have been laid open. Evidently the true surgical method was to eradicate the whole of the disease. In Case 41 a similar condition of the ovary was found, and it would have been equally impossible to deal efficiently with it by opening it from below. To Dr. Champneys' statement that pelvic peritonitis was rarely dangerous to life he listened with still greater amazement. Either Dr. Champneys was not talking about the same thing as he was, or had shut his eyes to facts. Then Dr. Champneys said that a number of these cases were ordinary cases of pelvic abscess. If, by that, he meant abscesses in the connective tissue, he was mistaken; there was no such case in the list. If he meant pelvic suppuration, of whatever kind, of course it was open to Dr. Champneys to adopt the vague name of pelvic abscess if he preferred it. He (Dr. Cullingworth) thought the phrase should be restricted to cases in which the source and seat of suppuration remained undiscovered.

Most of Dr. Playfair's criticisms were based on a classified list of the various conditions found when the abdomen was opened. Such criticisms were easy enough. When Dr. Playfair came to read the full details he would be the first to acknowledge that, in almost every case, there were good grounds for operating. As to the too great readiness to operate, with which Dr. Playfair seemed disposed to charge him, he could not

help thinking that, if he had been destined ever to succumb to the operating mania, he would have fallen a victim to it somewhat earlier in life. He was exceedingly glad to hear the remarks of Mr. Mayo Robson, for he had looked at the question from the point of view of a general surgeon, and had supported the contention of the paper as being in accord with ordinary surgical principles. Mr. Knowsley Thornton had expressed his disbelief in the painlessness of salpingitis. He had only to read the clinical records in the paper, and he would see how invariably it happened that patients, who were proved by operation to have old-standing tubal inflammation, had been unconscious of any pelvic pain up to the time that secondary peritonitis occurred. The moment the inflammation spread from a mucous to a serous membrane, pain became the most marked symptom. Turning to the excellent speech of Mr. J. W. Taylor, he was under the impression, as he listened, that he was telling the story of Case 14, so similar was it to the one Mr. Taylor related. Mr. Skene Keith seemed to doubt the frequency of such conditions as were described in the paper. All he could say was that he did not go out into the highways and hedges, and compel them to come into St. Thomas's, and yet they were found there, as was proved by his paper, in great abundance. Such cases were believed to be rare simply because they were not diagnosed. He was sorry to have detained them so long; the importance of the subject must be his excuse. He desired, in conclusion, to challenge those who decried these operations to bring forward a series of fifty similar cases treated by other than operative measures, giving the full clinical history from beginning to end, and where death occurred, an account of the conditions disclosed at the autopsy.

DECEMBER 7TH, 1892.

J. WATT BLACK, M.D., President, in the Chair.

Present—48 Fellows and 8 visitors.

Books were presented by Dr. Frommel, Dr. Lazarewitch, Dr. Philip D. Turner, Messrs. Adlard and Son, the Medical Society of London, the Council of University College, and the Edinburgh Obstetrical Society.

William Bramley Taylor, M.R.C.S., was admitted a Fellow of the Society.

James Henry Ashworth, M.D.St. And. (Halstead); Francis Alexander Barton, L.R.C.P.Lond. (Beckenham); Robert Davis, M.R.C.S. (Epsom); and William John Mackay, M.B., M.Ch.Sydney (Rooty Hill, N.S.W.), were declared admitted.

The following gentlemen were proposed for election:—Richard Henry Barber, L.R.C.P.&S.Edin. (Portland, Oregon, U.S.A.); Ferdinand Campion Batchelor, M.D. Durh. (Dunedin, N.Z.); Henry Ferdinand Bernau, L.R.C.P.Lond. (East Finchley, N.); Frederick Bernard Betts, L.R.C.P.Lond.; Henry St. George Boswell, M.B. Edin. (Saffron Walden); James Craig, M.D.Edin. (Beckenham); William Harrison Cripps, F.R.C.S.; W. Bruce Clarke, F.R.C.S.; Philip Henry Dunn, L.R.C.P.Lond. (Stevenage); Bowie Campbell Gowan, L.R.C.P.Lond. (Great Stanmore); Thomas Horatio Haydon, M.B., B.C. Cantab. (Richmond); Walter Wheeler Heelas, L.R.C.P. Lond.; Henry Laver, M.R.C.S. (Colchester); Roderic

Robert Walter Logan, M.R.C.S. (Leighton Buzzard); Archibald Lamont Macphail, L.F.P.S. and L.M.Glasg.; Harry Michie, M.B.Aber. (Nottingham); James Morrison, L.R.C.P.Lond.; John Stuart Nairne, F.R.C.S.Edin. (Glasgow); Frank Edward Nichol, M.A., M.B., B.C. Cantab. (Margate); E. H. Edwards Stack, M.B.Cantab.; Richard Jocelyn Swan, M.R.C.S; William Francis Umney, M.D.Lond. (Sydenham); William Kay Walls, M.B.Lond. (Manchester); and Thomas James Webster, M.R.C.S. (Merthyr Tydvil).

ASEPTIC INSTRUMENTS.

By Peter Horrocks, M.D.

A pair of midwifery forceps and a uterine sound were shown as examples of aseptic instruments. They were made of metal throughout, and free from all indentations. A special point was the absence of the maker's name, the stamping of which on all instruments rendered them difficult to clean.

TRANSFUSION APPARATUS.

By Peter Horrocks, M.D.

A simple apparatus for the transfusion of saline fluids into the venous system in cases of severe hæmorrhage was shown. It consisted of a cannula in silver or glass, a piece of tubing, and a funnel. A plunger went with the funnel so that it could be used as a syringe if requisite. It was quite easy to obtain a bit of tubing

and a funnel in most houses, and therefore he always carried a silver cannula in his pocket, and was thus provided potentially with a transfusion apparatus. In cases of extreme hæmorrhage with collapse, pulselessness, &c., he injected five to six pints of water previously boiled, but cooled down to about 101°—102° F. by means of ice, or standing the containing vessel in cold water. Common salt was added to the water in the proportion of about a teaspoonful to the pint.

Dr. Herbert Spencer was glad that Dr. Horrocks had adopted the method of injecting the fluid by gravitation instead of by a syringe. He (Dr. Spencer) had employed the gravitation method for the last five years, and the injection bottle he had employed was figured in the 'Lancet,' of June 18th, 1892. Dr. Horrocks' syringe, if used to inject by gravitation, was an improvement on the ordinary funnel; but the use of the piston was dangerous from the liability to sudden alterations in pressure, the risk of introducing air and dust, the need of a reliable person to attend to the refilling, and from the difficulty in keeping the piston aseptic. The apparatus shown by Dr. Horrocks would also allow the fluid to cool, whereas with the irrigation bottle it could be kept at a constant temperature. Saline transfusion was still in an experimental stage, and it would help in forming a correct judgment if observers employed apparatus of which the factors had a definite value, and if they gave the exact nature, quantity, temperature, and the rate of injection of the fluid, and published all their cases as he (Dr. Spencer) had done.

Dr. Horrocks, in reply, said that he had been working at the subject with the late Dr. Wooldridge some years before his death (1889); it was not true in practice that danger resulted from using a syringe, and this indeed was largely practised at Guy's from instructions given by himself. But he had found the apparatus exhibited to-night to be clean, simple, cheap, and efficient. Moreover, the theoretical objections mentioned by Dr. Spencer were not met with in practice, and he hoped no medical practitioner would allow a patient to die from hæmorrhage without trying a copious injection of salt and water into the veins. He had tried injection into the cellular tissue, but it was not quick enough in these severe cases.

OVARIES REMOVED FROM A CASE OF OSTEO-MALACIA.

By A. Rasch, M.D.

A committee, consisting of Drs. Rasch, W. S. A. Griffith, Boxall, and Horrocks, was appointed to report on this case.

PAPILLOMATOUS OVARIAN CYST.

By Arthur H. N. Lewers, M.D.

The cyst was removed in June, 1892, from a patient aged 61. The point of interest in the specimen was that there were pedunculated papillomatous growths from the peritoneal aspect of the cyst. These projected freely into the ascitic fluid, a large quantity of which was present in the peritoneal cavity. Nevertheless there was no infection of the peritoneum, as no papillomata were present anywhere except on the surface of the cyst. There were some points of clinical interest also in the case. About three years before Dr. Lewers saw the patient she had been to another hospital complaining of symptoms of intestinal obstruction; cancer of the ovary was there diagnosed, and the patient was advised to have colotomy performed. She fortunately for some reason did not consent; the symptoms of obstruction appeared to have subsided, but the abdomen continued to enlarge. She was sent to Dr. Lewers in May, 1892, with the object of having the pressure symptoms relieved by tapping, but with no hope of obtaining complete relief. Dr. Lewers saw no reason why the case should not be one of ovarian tumour with ascites, and at the operation this proved to be the case;

both ovaries were similarly affected. The patient did quite well. Before the operation the girth at the umbilicus was 43 inches; when leaving the hospital the measurement had fallen to 27¼ inches. Dr. Lewers had seen the case within the last few days; there had been no return of the ascites, nor was there anything abnormal to be detected on examination. The patient said she was in perfect health.

Dr. Cullingworth said there was no doubt as to the tendency of papillomatous growths in and around the ovary to infect parts with which they came in contact, and he thought the probable explanation of the non-occurrence of such infection in Dr. Lewers' case was that a rapid effusion of ascitic fluid, from the irritation produced by the growth, lifted the peritoneum, as it were, out of the reach of the growth, and therefore out of the reach of infection, by separating the peritoneal surfaces.

MALFORMED FŒTUS.

By Amand Routh, M.D.

Mr. Alban Doran referred to Drs. Matthews Duncan and Hurry's memoir ('Trans. Obstet. Soc.,' vol. xxvi, 1884, p. 206), and to Dr. Dakin's important contributions (*ibid.*, vol. xxii, pp. 200, 368), which threw light on the relation between spinal retroflexion, ectopia viscerum, and short cords. He hoped that Dr. Dakin would examine the specimen. The condition of the genito-urinary tract should be determined. The most remarkable malformations were seen in these cases, and they threw light on the development of Müller's and Gartner's ducts. Mr. Doran referred to his own case, described in an article "Dissection of the Genito-urinary Organs in a Case of Fissure of the Abdominal Walls," in the 'Journal of Anatomy and Physiology,' vol. xv, 1881, p. 226. Dr. Amand Routh's case resembled it in several respects.

A committee, consisting of Drs. Dakin, A. Routh, and Messrs. Doran and Targett, was appointed to report on this specimen.

PLACENTA PRÆVIA ASSOCIATED WITH UNUSUAL SIZE AND SHAPE OF THE PLACENTA.

By Robert Boxall, M.D.

Dr. Boxall showed two specimens, in both of which the fœtus had been extruded together with the placenta in an unruptured sac, one at the eighth, the other in the sixth month of gestation. Both women had had one child previously, in the one case four and a half, and in the other three and a quarter years ago, but no miscarriage. In both the vertex presented.

In the first specimen the placenta was larger than usual, and covered about one third of the fœtal envelope, and in addition was elongated in a downward direction, so that though as a whole the placenta maintained a normal position, the lower edge of it projected in front of the fœtal head, and thus by encroaching on the dangerous zone gave rise to hæmorrhage for five days before the expulsion of the mass. The whole of the chorion was found to be missing, having separated from the margin of the placenta, and was probably passed with clots during the first twenty-four hours after delivery.

In the second specimen the placenta was spread over the lower half of the fœtal envelope, and was so thin that, though it filled the lower segment, the head could be easily felt through it. The case was further complicated by the presence of a fibroid in the anterior wall of the uterus. Hæmorrhage had taken place about once a month throughout the pregnancy, and for six weeks had been continuous. The patient herself had no idea of her pregnancy.

SUPPOSED UNRUPTURED TUBAL GESTATION SAC.

By W. S. Playfair, M.D.

Dr. Playfair exhibited what he supposed to be an unruptured tubal fœtation removed by abdominal section. The patient exhibited the characteristic symptoms of ectopic gestation in a marked way. She had missed one monthly period when admitted into the hospital for severe abdominal pain. At this time there was no enlargement of the tube to be made out. She was kept some three weeks under observation. During this time she had repeated attacks of most severe pain, an irregular metrorrhagia, darkened areolæ, and lacteal secretion in the breast. A steadily increasing, elongated, swelling like a sausage was now to be made out in the region of the right Fallopian tube. Believing this to be probably a tubal gestation, an exploratory operation was made. The tube was found to be largely distended and thinned, and apparently on the point of rupture. It contained a quantity of blood-clot, but no obvious ovum. It seemed probable, however, that the ovum had perished, and was lost in the surrounding clot. Microscopical examination of this with the view of detecting chorionic tissue was not yet completed. It was curious that twenty-four hours after the operation the patient went through a typical attack of the prevailing influenza with an initial temperature of 105°; this ran the usual course, and the patient made a good recovery.

Dr. Handfield-Jones asked whether Dr. Playfair had noticed any intimate incorporation of the blood-clot with the wall of the Fallopian tube, as this had been given by Dr. Orthmann as characteristic of the hæmatosalpinx of early tubal pregnancy as distinguished from other forms of hæmatosalpinx.

HÆMATOSALPINX.

By Edward Malins, M.D.

Mary N—, aged 19, domestic servant, admitted to the General Hospital, Birmingham, April 29th, 1892, under the care of Dr. Malins. First menstruated three years ago, lasting three days; not again until eighteen months afterwards, when it lasted several days, and was accompanied by "clots." About Christmas time she was knocked down, after which she noticed a lump in the left side of the abdomen, which gradually grew larger and caused pain, for which she came to the hospital.

On admission a moveable mass was felt in the left iliac region midway between the umbilicus and the middle of Poupart's ligament.

Abdominal section in the median line was done on May 5th. The mass was found to be the left Fallopian tube distended with blood; the ovary at the base. It was transfixed, tied with silk, and removed. Patient discharged cured, May 31st. The tube weighed 4½ oz.

There was no suspicion of pregnancy from the history; the vagina was narrow; there was a transverse septum over a small aperture at the summit representing the os; a sound passed through it into the uterus. The right ovary and tube were seen to be normal at the time of the operation.

Report on Dr. Malins' specimen of Hæmatosalpinx.

A portion of the wall of the dilated tube was embedded in celloidin, and sections were prepared for the microscope. The muscular coat of the tube was found to be very thin from distension, and in places strands of its fibres were separated by granular *débris* of old blood-clot. Attached

to the mucous surface of the muscular coat was a thin layer of granular material, together with polypoid masses of nucleated tissue. The latter under a high power were seen to consist of the submucous connective tissue in which hæmorrhage had taken place; they were partly covered with a single layer of columnar epithelium, like that lining the mucosa of the normal Fallopian tube. The specimen is preserved in the Royal College of Surgeons Museum.

J. H. TARGETT.

Report of Committee on Dr. Playfair's specimen of Hæmatosalpinx shown February 3rd, 1892 (*p.* 28).

THE specimen is a dilated Fallopian tube. After shrinking in spirit the cavity measures 2½ inches long by about 1 inch in diameter. The wall of the tube is little, if at all, thickened. Within the tube at the time of removal we are informed there was a large black clot, distending the tube at the time of operation to about the size of a lemon. Many sections from different parts of this clot have been examined by Mr. Lenthal Cheatle, who has failed to find chorionic villi in any part of it.

The clinical history clearly pointed to extra-uterine gestation, but the specimen shows no evidence of it.

Mr. Lenthal Cheatle informs us that he has made microscopical sections of the wall of the tube, and that they show inflammatory infiltration, but no trace of chorionic villi. He has also examined some flake-like projections from the wall of the tube, but they show nothing but fibrin.

W. S. PLAYFAIR.
WALTER S. A. GRIFFITH.
G. ERNEST HERMAN.

Report of Committee on Dr. A. E. Giles's Specimen of Malformation of Rectum and Bladder, Congenital Absence of both Kidneys and Ureters, &c., shown April 6th, 1892 (*p.* 129).

THE structures appear to be precisely as indicated in the drawing (p. 131). In respect to the unnamed band running from the epididymis (H) to the scrotum (its lower part, in the drawing, running to the left of R, the pubes), it is, in our opinion, the left gubernaculum testis. The corresponding structure exists on the right side.

We call attention to a somewhat similar case of absence of kidneys, published in July, 1892, by Dr. Rissmann, of Hanover ("Ein Beitrag zur Frage der fötalen Nierenfunktionen," 'Centralb. f. Gynäk.,' No. 26, 1892, p. 497). Both illustrate the fact to which Dr. Rissmann calls attention: "a well-developed fœtus may be born alive at the beginning of the eighth month without kidneys or ureters."

ARTHUR E. GILES.
W. R. DAKIN.
ALBAN DORAN.

Report of Committee on Dr. Cullingworth's specimen of Tubal Gestation with Apoplectic Ovum shown June 1st, 1892 (*p.* 182).

THE specimen consists of the greater part of the right Fallopian tube, 7 centimetres in length. Immediately above the abdominal end is an oval swelling of the size of a pigeon's egg, which projects freely outwards as in the drawing. The ostium is patulous and surrounded by fimbriæ, which are somewhat œdematous. The canal of

the tube is not only pervious (in the portion of the tube which is here preserved), but dilated so as to measure 0·5 centimetre at the narrowest part.

On section, the oval swelling is found to be a cyst filled with apparently homogeneous clot. On clearing out the clot, which is partly adherent, the wall of the cyst appears simple, without any evidence of former loculi. No communication with the canal of the tube can be detected. There is a ragged hole immediately above the fimbriæ, apparently artificial.

On microscopical examination of the clot no chorionic villi could be detected. The clot was intimately adherent to the wall of the cyst, and the epithelial investment of the mucous membrane did not exist.

CHAS. J. CULLINGWORTH.
ALBAN DORAN.
WILLIAM DUNCAN.
J. BLAND SUTTON.

PREGNANT UTERUS BICORNIS.

By J. R. RATCLIFFE, M.B.

THE specimen was taken from a woman, aged about 30, who had been killed by a crane accident. She had had one child previously, and the labour had been normal. On *post-mortem*, the two pear-shaped horns of the uterus were found lying completely in the true pelvis. The rectum was mesial, and separating the two horns was a median recto-vesical fold 2 inches high. The right horn was 4⅛ inches long with a circumference of 6 inches, and its cavity showed a well-marked decidua but no fœtus. The left horn was 4½ inches long with a circumference of 6½ inches, and it contained a fœtus between the second and third month of gestation. The right ovary (that on the opposite side to the pregnant horn) showed

a true corpus luteum, and there was none in the left ovary. The two uterine cavities joined by narrow necks into a shallow cervical cavity about ¼ inch deep, and freely patent into the vagina, which was partially double, being 5 inches long with a diameter of 2½ inches, and on the upper and lower walls was a longitudinal raphe, not, however, united.

Mr. Ratcliffe said that the interest of the specimen lay (1) in the fact of the woman having menstruated regularly up to the time of her death; (2) in the fact that the true corpus luteum was on the opposite side to the pregnancy. This last, he said, seemed to throw doubt on the accepted theory of the origin of the true corpus luteum. If the ovum which had given rise to the fœtus had come from the ruptured Graafian follicle represented by the corpus, it would either have had to come from deep down in the true pelvis and mount the high recto-vesical fold, which he thought very improbable, or it would have had to pass down one tube and cornu to the very shallow cervix and up into the other cornu, which seemed an anatomical impossibility; therefore he thought that the corpus luteum did not represent the Graafian follicle of the fertilised ovum, but retrogressive changes in the next or a subsequent one, which, when ready to burst, found the uterus gravid, and so aborted, as it were.

(The specimen is in the Royal College of Surgeons Museum.)

Report of Committee on Dr. Ratcliffe's Specimen of Uterus Bicornis shown June 1st, 1892 (*p.* 469).

The uterus is divided into two distinct cornua of about the same size, each nearly 5 inches in length. In the right cornu the muscular coat is hypertrophied to the extent of a quarter of an inch. The Fallopian tube is normal, and begins immediately external to the uterine

origin of the round ligament; its uterine end is pervious. Although the cavity of this cornu is wide, there is no trace of any product of gestation to be detected. The left cornu is distinctly larger than the right. Its muscular coat is thickest antero-inferiorly. Superiorly it is thin, about half as thick as in the right horn. The relations of the horn to the round ligament and Fallopian tube are as on the right side. The peritoneum passes from the bladder to the rectum between the uterine horns, making a mesial triangular fold, with the base or free border looking upwards, the apex lying in Douglas's pouch, which is thus divided into two complete cavities. The right ovary contains a recent mature corpus luteum; the left ovary bears only a few small follicles. The vagina is very capacious; the anterior and posterior columns are much exaggerated. The cervix uteri is very short and broad, the os externum single, the cornua opening separately just above it.

The ovum from the right ovary may have been washed up the left cornu just as it left the right cornu immediately above the os externum, but from the shallowness of the os this seems hardly probable.

J. H. Targett.
J. R. Ratcliffe.
Alban Doran.

Note by Dr. Ratcliffe.—A possible explanation seems to be that the fertilised ovum did not come from the corpus luteum seen, but that this luteum represented retrogressive changes in the next Graafian follicle about to burst after the one from which the ovum came—changes of an abortive nature; and this may explain the nature of the true corpus luteum.

In the right cornu was a well-marked tuberculated decidua, easily stripped by the handle of the scalpel. There was no trace of any embryo.

In the left cornu there was an embryo at about the second or third month of gestation.

The cervix was grooved antero-posteriorly (not lacerated), and the os opened into a shallow cavity which immediately (about ¼ inch up) bifurcated and led into the two horns. The median peritoneal fold was 2 inches high.

It might be added that the woman had had one normal labour previously. She had also menstruated up to the of time her death, and did not know herself to be pregnant.

ON THE OCCURRENCE OF SUGAR IN THE URINE DURING THE PUERPERAL STATE.

By Frederick J. McCann, M.B.Edin., M.R.C.P.Lond., and William Aldren Turner, M.D.Edin., M.R.C.P.Lond.

(Received December 10th, 1891.)

(*Abstract.*)

The authors of this paper have investigated a series of one hundred cases, and from the results thus obtained have arrived at the following conclusions:

1. That sugar is present in the urine of women during lactation. (The authors assume with Hofmeister that this sugar is milk-sugar.) Glucose may also be found.
2. That sugar is present at some period in every case.
3. That in the majority of cases the largest amount occurs on the fourth and fifth days of the puerperium.
4. That the quantity depends on (1) the condition of the breasts; (2) the quantity and quality of the milk; (3) the sucking of the child. Out of one hundred cases the average quantity found was ·35 per cent., *i. e.* 1½ grains per ounce.
5. That when lactation is diminished or suppressed, the amount of sugar diminishes or disappears.
6. That when the production and exhaustion of the milk are equal, the amount of sugar is very small.

That a variable amount of sugar occurs in the urine of puerperal women has been an established physiological fact since Blot (1856) first drew attention to the subject.

Since 1856 various observers have investigated the subject with varying results, so that no definite conclusion

has been arrived at as to whether sugar is constantly present in the urine of every woman during the puerperium; moreover, as the results referred to have been obtained after examination of a very small number of cases, and as a systematic daily investigation of the condition of the mammary glands was not carried out, much valuable information was thereby lost. Keeping in view these discrepancies, the authors of this paper have drawn their conclusions from a series of 100 cases, and have in addition noted the daily variation in the condition of the breasts, the quantity and quality of the milk, together with the sucking and general nutrition of the child.

The effects of prematurity of the fœtus, of stillbirths, of arrested lacteal secretion, including the effect of belladonna applied to the breasts, have been added.* The importance of this method is at once evident, for the seat of the production of the sugar being in the mammary glands, the varying conditions to be observed in these organs regulate the amount of lactose present in the urine.

As previously mentioned, the presence of sugar in the urine of suckling women was first pointed out by Blot† in 1856, who showed that "in all puerperal, in all suckling women, and in a certain number of pregnant women sugar is found in the urine, and that the quantity of sugar is in direct relation to the activity of the mammary glands."

Leconte‡ (1857) refutes the previous statements.

Kirsten§ (1857) confirms as to the presence of sugar, but affirms that if lacteal secretion be hindered the sugar increases instead of diminishes; whilst in those women who have much milk, and whose babies thrive, only traces of sugar are found in the urine.

Brücke‖ (1858) says that "it is physiological in nurs-

* The age and condition of the patient, the character of the labour and of the puerperium are stated.

† 'Comptes Rendus,' xliii, p. 676, 1856.

‡ 'Archives générales de Médecin,' Aug., 1857.

§ 'Monatsschrift,' 1857, Bd. ix, s. 437.

‖ 'Wiener medicin. Wochenschrift,' 1858.

ing women and in healthy individuals; Iwanoff* (1861), that the glycosuria of pregnant and puerperal women is not so constant as Blot thought, but nevertheless is often met with.

In 1873 De Sinéty,† investigating the subject at length, stated that at the third or fourth day after delivery, he always found sugar in the urine. He found increase of sugar in the blood of bitches during lactation, still greater when lactation was suppressed.

Spiegelberg‡ mentions that the urine is frequently saccharine; the sugar is in the form of lactose, and as a rule contemporaneous with the establishment of lactation, the quantity being generally in proportion to the abundance of the milk. He regards the condition as one of resorption diabetes.

Hempel§ (1874–5), from a careful analysis of twelve cases, concluded that sugar was present at some period during the puerperium, the greatest quantity noted being 1·6 per cent. (in this case the breasts were enormously distended).

Kaltenbach ‖ (1877), while corroborating the work of previous observers, at the same time noted the relation of sugar in the urine to changes in the mammary glands.

Hofmeister ¶ (1878) showed that the sugar found in the urine of suckling women, possessed all the characters of milk-sugar.

These results show the difference of opinion which has existed in the minds of those who have investigated this subject, and as yet sufficient data have not been brought forward to decide the initial question, Is sugar always present at some period in the urine of suckling women? The object of the present paper is to decide this question,

* Thèse Dorpat, 1861.

† 'Gaz. méd. de Paris,' p. 573, 1873.

‡ 'Text-book of Midwifery' (New Syd. Soc.), vol. i, p. 290.

§ 'Archiv f. Gyn.,' Bd. viii, p. 312.

‖ 'Zeitschrift f. Geb. u. Gyn.,' iv, p. 161.

¶ 'Centralblatt f. Gyn.,' 1878, p. 88.

and to elucidate many interesting points connected with this subject.

In carrying out this investigation much time might be spent over details in the testing employed, and as it seemed that for our purpose this was unnecessary, we have employed one uniform method throughout.

For qualitative examination the test used was Fehling's solution, as recommended by Sir Wm. Roberts,* which is as follows:

Add the suspected urine to boiling Fehling's solution, raise again to the boiling-point, allow to cool, note change which occurs. If a small quantity of sugar be present, green milkiness occurs; if more sugar, a yellow-green opacity, which deposits on cooling a bright yellow precipitate; if much sugar, as in diabetes, the suboxide falls as a brick-red deposit at once; the last reaction occurs when only a drop or two of urine is added to the boiling test solution.

For small quantities of sugar (1) an excess of the test solution is required; (2) earthy phosphates, if in excess, to be precipitated by an alkali; if not in excess, they do not affect the test much. Phosphates fall as dirty white flocculi, which can be readily distinguished from the precipitate of suboxide. (3) Uric acid and urates, according to Roberts, do not affect the value of the test. (4) Prolonged boiling must be avoided, as a muddy deposit falls, due to precipitation of earthy phosphates tinged red. This last appears to have been a source of fallacy with some of the earlier workers at this subject. The quantitative estimation was made with Pavy's ammonio-cupric solution.

Samples of the morning urine were tested after straining through fine muslin. In cases giving doubtful reaction the catheter was used, the first sample being always drawn off. Although complicated tests have been employed for the detection of sugar in the urine, it was found that the solutions suggested by Fehling and

* 'Urinary and Renal Diseases,' 4th ed., 1885, p. 213, *et seq.*

Pavy gave results sufficiently accurate for clinical purposes.

A large series of cases was examined in order to decide definitely if lactose was always present at some period during lactation. The result has been that in every case lactosuria was observed, and thus the debatable question may be considered to be settled. Nevertheless the quantity varies at different periods and in different individuals, depending on various circumstances to be referred to later.

As a rule, lactose is present every day after lactation; in some cases none can be discovered on certain days.

The quantity found varied from ·18 per cent. to ·69 per cent., the average being ·35 per cent., *i. e.* 1½ grains per ounce. In this relation it may be mentioned that the amount of sugar present in normal urine is so small that its presence is not shown by the ordinary clinical tests, and may therefore be disregarded.

Date of First Appearance of Lactosuria.

1st day (day of labour)	29 per cent.	4th day	11 per cent.
2nd „	27 „	5th „	2 „
3rd „	26 „		

From this table it will be seen that in the largest number of cases, viz. 29 per cent., sugar was present on the day of labour, but in several a diminution or even absence of sugar was noticed on the second day, appearing again on the third or fourth days in considerable quantity. Mental anxiety is stated as a cause of temporary glycosuria, but whether or not labour acts in this way is difficult to determine; more probably the activity of the mammary glands is aroused at this time, and lactosuria is produced. The late appearance of lactose on the fourth and fifth days can be explained by the fact that the supervention of lactation is delayed in these cases.

Quantity of lactose.—The following table indicates the days when the largest amount of sugar is present:

2nd	day in	5	per cent.	9th	day in	4	per cent.
3rd	„	10	„	10th	„	5	„
4th	„	26	„	11th	„	3	„
5th	„	26	„	12th	„	2	„
6th	„	8	„	13th	„	2	„
7th	„	5	„	14th	„	1	„
8th	„	3	„				

To compare with the above a table has been constructed to show the day when milk first appears in the breasts:

1st	day in	1	per cent.	4th	day in	39	per cent.
2nd	„	5	„	5th	„	6	„
3rd	„	46	„	6th	„	1	„

From the first of these tables it is seen that the largest amount of sugar was present on the fourth and fifth days in 26 per cent., and from the second table that the first appearance of milk was noted on the third day in 46 per cent., and on the fourth day in 39 per cent. Now the mammary glands being in a state of great activity on the third and fourth days of the puerperium, milk is rapidly formed, and thus distension of the breasts soon occurs; at the same time milk-sugar is absorbed into the blood owing to the excessive production or diminished outflow of milk, and this excess of milk-sugar is excreted by the urine, and is thus found in largest amount on the fourth and fifth days. In most cases after this period the amount of sugar remains constant if the milk be excreted uninterruptedly, and if the daily quantity be not excessive, *i. e.* if the production and exhaustion be equal.

Cause of variations in quantity.—The most important factor in causing increase of lactosuria is distension of the breasts, for here, the outflow of milk being hindered, milk-sugar is absorbed into the blood and excreted by the urine. The same effect is produced by the application of belladonna to the breasts.

Next in importance comes the excessive production of milk. Here, also, a certain amount of lactose must be

absorbed and excreted by the urine; this is well seen in cases where milk is constantly overflowing from the breasts. We have, therefore, in the state of the mammary glands an explanation of the increase or diminution of lactosuria. Although excess of milk is associated with increased lactosuria, yet, as far as we have been able to determine, the quality of the milk may be inferior. So long as the milk secreted is rich in milk-sugar lactosuria occurs. This has an important bearing on the question raised by Blot as to whether the amount of sugar present in the urine was an indication of value in choosing a wet-nurse. Now in Case 9, where milk overflowed continuously from the breasts, a large amount of sugar was present in the urine, but the milk was poor in quality, and the child did not thrive well. Here we must conclude that the milk, although abounding in lactose, and thus causing increased lactosuria, may still be poor in nutritive value, and that the indication as to the value of a wet-nurse, taken from the amount of lactose in the urine, is not to be relied upon.

The influence of sucking must also be mentioned, as the gland acini are stimulated reflexly through the sensory nerves of the nipple. Not only is the milk in the gland extracted, but new milk is formed owing to accelerated secretion, and in all probability this explains the occurrence of the overflow of milk from the breast which is not used. It follows, then, that more absorption of lactose occurs where the child sucks vigorously.

These points will be best understood by a study of the following cases.

1. *A typical case.*—No. 45, aged 24, healthy primipara, breasts well developed. Male child, alive, full time, weight 6 lbs. 15 oz.

1st day	No sugar	No milk.
2nd „	·18 per cent.	„ Colostrum in breasts.
3rd „	·18 „	Milky fluid in breasts.
4th „	·34 „	Milk fully in. No overflow. No distension.
5th „	·40 „	Good supply of milk. No overflow. No distension.

6th day	·24 per cent.	Good supply of milk. Child sucking well.
7th „	·24 „	„ „ „ „
8th „	·24 „	„ „ „ „
9th „	·24 „	„ „ „ „
10th „	·24 „	Slight overflow in the morning. Child sucking well.
11th „	·29 „	No overflow. Child sucking well.
12th „	·24 „	„ „ „
13th „	·24 „	„ „ „

The above case illustrates well many points previously mentioned. Lactosuria was detected every day after the second. The amount of lactose was increased on the fourth day (day of lactation), the largest amount being reached on the following day, viz. ·40 per cent. On the sixth day it fell to ·24 per cent., this remaining constant until the tenth day, when slight overflow of milk occurred, followed by increased lactosuria on the eleventh day, ·29 per cent. On the remaining days the amount was again ·24 per cent.

From this it is evident that after lactation is well established the amount of lactose remains fairly constant if the quantity of milk be not excessive and the mammary glands act normally, the child at the same time sucking well; in other words, where the production and exhaustion of milk are equal. The largest amount of lactose is found the day following lactation, as the breasts are at this time in a state of great activity, and lactose is being absorbed into the blood.

2. *Case illustrating the effect of breast distension and the application of belladonna.*—No. 52, aged 19, primipara (anæmic), breasts well developed. Female child, alive, full time, 7 lbs. 4 oz.

1st day	No sugar	No milk. Colostrum.
2nd „	„	Milky fluid present. Uses nipple shield.
3rd „	·25 per cent.	Milk fully in. Breasts distended. Uses nipple shield.
4th „	·67 „	Breasts much distended. Some overflow.
5th „	·50 „	Much distension. Slight overflow.
6th „	·42 „	Distension less. „ „
7th „	·34 „	Distension lessening. Slight overflow.

8th day	·24 per cent.	Distension lessening. Slight overflow.
9th „	·24 „	Belladonna for a few hours to right breast.
10th „	·24 „	Right breast not used. Left, good supply.
11th „	·39 „	Left breast inflamed; belladonna applied. Good supply from right.
12th „	·34 „	Belladonna still applied to left. No overflow.
13th „	·40 „	Belladonna still applied. No overflow. Child weaned.
14th „	·50 „	Belladonna.
15th „	·25 „	Child reapplied to right breast.
16th „	No sugar	Belladonna stopped.
17th „	„	Some milk in right breast.
18th „	„	Still some milk in right breast.
19th „	„	No milk.

The effect of breast distension is well illustrated here by the increased amount of lactose found on the fourth and fifth days, diminution in the amount of distension being accompanied by diminution in the amount of lactosuria. The quantity remains constant until, owing to the application of belladonna, an increase occurs, followed by a diminution and final disappearance, when, as a result, the milk is not produced, at the same time the stimulating effect of the sucking of the child is absent.

3. *Case illustrating the effect of prematurity and still-birth.*—No. 26, aged 27, primipara, fairly well nourished, breasts well developed. Male child, still, premature, 3 lbs. 8 oz.

1st day	No sugar	No milk. Colostrum.
2nd „	·17 per cent.	„ „ (Urine by catheter.)
3rd „	No sugar	Milk in both breasts.
4th „	·34 per cent.	Breasts overflowing. Slight distension.
5th „	·22 „	„ „ No distension.
6th „	·22 „	„ „ No discomfort.
7th „	·24 „	No overflow.
9th „	·19 „	Very little milk.
10th „	·19 „	„ „
12th „		„ „
13th „	·22 „	Pale watery fluid in right breast.
14th „	·22 „	No fluid in breasts.

Here, again, the effect of breast distension is evident.

The lactose occurred in comparatively small quantity throughout. With the diminution of milk came a corresponding change in the amount of lactose.

4. *Case showing a small amount of lactose accompanied by a small milk-supply.*—No. 81, aged 26, 3-para, anæmic, breasts fairly well developed. Female child, alive, full time, 8 lbs.

1st day	No sugar	No milk. Colostrum. (Urine by catheter.)
2nd „	·22 per cent.	Colostrum.
3rd „	No sugar	Milky fluid in breasts.
4th „	„	Milk present. No overflow. No distension.
5th „	„	Slight overflow. Breasts flabby.
6th „	„	Right breast full. No overflow.
7th „	·17 per cent.	Good supply of milk.
8th „	No sugar	Slight overflow. Less milk.
9th „	·19 per cent.	„
10th „	·22 „	Slight distension of left. No overflow.
11th „	·22 „	No overflow. Child sucking well.
12th „	No sugar	„ „
13th „	·17 per cent.	„
14th „		„

The effect of increased milk-supply together with breast distension is well illustrated here also.

In this case the milk, which was small in amount, was being consumed rapidly by the child, so that no lactose was absorbed into the blood.

5. *A large quantity of sugar with a large supply of milk.*—No. 9, aged 24, primipara, healthy, breasts well developed. Male child, full time, weakly, 6 lb. 12 oz.; ill-nourished when discharged from hospital.

1st day	During labour	·18 per cent.	Milk in breasts.
	After labour	·18 „	„ „
2nd „		·20 „	„ „
3rd „		·69 „	Milk overflowing. Left nipple depressed.
4th „		·25 „	Milk poor in quality, overflowing, especially from right breast.
5th „		·37 „	Overflow from both breasts.
6th „		·65 „	Much overflow, more on right side. Nipple shield used. Child not sucking well.

7th day . .	·25 per cent. .	Overflow. Child sucking better.
8th „ . . .	·30 „ .	Overflow. Child sucking well.
9th „ . . .	·25 „ .	Continuous overflow from both breasts.
10th „ . . .	.	Breasts very full. Constant overflow.
11th „ . . .	·40 „ .	Overflow. Child sucking better.
12th „ . . .	·34 „ .	Overflow.
13th „ . . .	·25 „ .	Increased overflow.
14th „ . . .	·34 „ .	Overflow continues.

N.B.—The possibility of diabetes or of gouty glycosuria was entertained in this case, but no evidence of these was forthcoming.

In this case the largest amount of lactosuria was obtained, namely, ·69 per cent. on the third day, and in addition a large amount was present daily throughout the puerperium.

As a distended condition of the breasts was not present, this case clearly shows how excessive production of milk leads to increased lactosuria. In addition, owing to depression of one nipple, the child, who was weakly at birth, did not suck vigorously, and thus what would have been a source of increased stimulation to the mammary glands was absent. The milk was poor in quality, but evidently contained a large quantity of milk-sugar. It will be seen also that sugar was present during and after labour, and that milk existed in the breasts at this period.*

Although as Hofmeister has proved, the sugar found in the urine of women during lactation is milk-sugar, still temporary glycosuria might also occur.† This condition is found after eating an excessive quantity of saccharine and amylaceous food, after asthma and epileptic fits, after mental anxiety,‡ and in gouty persons. After

* The diet of the patients consisted chiefly of milk for three days, when a meat diet was substituted.

† Glycosuria is also observed during recovery from cholera; also as a result of blows on the head and spinal concussion.

‡ (*a*) Goodhart, 'Brit. Med. Journ.,' Dec., 1889; (*b*) Ord, 'Brit. Med. Journ.,' Nov., 1889.

chloroform administration a substance has been shown to exist in the urine which has the power of reducing Fehling's solution.*

From the observations on this subject the following conclusions may be drawn:

1. As proved by Hofmeister, the sugar present in the urine of women during lactation is milk-sugar. Glucose may in addition be found.

2. That lactosuria is present at some period in every case.

3. That in the majority of cases the largest amount occurs on the fourth and fifth days of the puerperium.

4. That the quantity depends on (1) the condition of the breasts; (2) the quantity and quality of the milk; (3) the sucking of the child. Out of the 100 cases the average quantity found was ·35 per cent., *i. e.* 1½ grains per ounce.

5. That when lactation is diminished or suppressed the amount of lactosuria is also diminished or disappears.

6. That when the production and exhaustion of the milk are equal the amount of lactosuria is very small.

The thanks of the authors are due to Drs. Hope and Grigg for permission to publish the cases.

* Ashdown, 'Report of Royal College of Physicians' Laboratory, Edin.'

Lactosuria during the Puerperium.

(* Indicates the cases detailed in full.)

Case.	Age.	Para.	Greatest quantity per cent.	On what day.	Day of first appearance of sugar.	First day of lactation.	Remarks.
1	36	6	·40	6th	4th	3rd	
2	21	1	·24	8th	2nd	4th	
3	21	1	·26	10th	3rd	3rd	Twins. Breasts distended on 10th day.
4	24	1	·40	4th	4th	3rd	Breasts distended on 3rd day. Child sucked feebly.
5	25	4	·50	5th	4th	3rd	
6	20	1	·19	9th	4th	3rd	Breasts overflowed. No distension.
7	33	7	·40	3rd	3rd	3rd	
8	24	1	·66	4th	3rd	3rd	Breasts distended on 4th day.
9	20	1	·69	3rd	1st	1st	Much sugar was present throughout the puerperium.*
10	20	1	·24	4th	2nd	3rd	
11	20	1	·18	4th	3rd	3rd	No distension of breasts. Very slight lactosuria throughout.
12	38	1	·34	5th	2nd	3rd	
13	32	1	·40	8th	3rd	6th	Very little milk. Child had mixed feeding.
14	22	1	·34	3rd	—	3rd	Urine not examined on 1st and 2nd days. Milk plentiful; much overflow.
15	20	1	·65	5th	—	3rd	
16	27	1	·19	10th	3rd	3rd	Very slight lactosuria throughout. No distension; no overflow.
17	19	1	·19	5th	3rd	3rd	
18	36	2	·25	6th	2nd	4th	Very small milk supply. Child fed artificially.
19	17	1	·24	7th	3rd	3rd	Breasts distended on 5th and 6th days.
20	21	2	·40	5th	2nd	3rd	Breasts distended on 4th day.
21	20	1	·24	4th	2nd	4th	Slight lactosuria throughout.
22	24	1	·25	6th	2nd	3rd	Small milk supply.
23	19	1	·19	11th	1st	3rd	Lactosuria slight until breasts overflowed on 11th day.
24	30	1	·40	5th	3rd	4th	
25	24	1	·18	9th	5th	3rd	Very slight lactosuria. No overflow; no distension.
26	27	1	·34	4th	2nd	3rd	Child stillborn; premature.*
27	20	2	·40	4th	1st	3rd	
28	26	1	·19	12th	3rd	3rd	Breasts overflowed after 11th day.
29	20	1	·40	5th	2nd	3rd	

Case.	Age.	Para.	Greatest quantity per cent.	On what day.	Day of first appearance of sugar.	First day of lactation.	Remarks.
30	29	1	·34	4th	1st	3rd	Large supply of milk.
31	29	1	·65	4th	1st	4th	
32	23	1	·19	7th	—	2nd	
33	36	1	·25	13th	1st	4th	Little milk; little sugar.
34	39	12	·24	5th	5th	—	Child stillborn and premature; no milk could be expressed.
35	21	1	·19	11th	1st	3rd	Child stillborn; probably premature. Constant overflow; no distension.
36	21	1	·40	5th	1st	4th	Distension on 5th day.
37	24	1	·34	10th	2nd	3rd	Child premature; alive.
38	24	4	·22	2nd	1st	4th	
39	37	10	·40	2nd	2nd	3rd	
40	20	2	·19	8th	1st	4th	Anencephalous fœtus.
41	30	3	·24	3rd	1st	3rd	
42	26	2	·24	4th	3rd	3rd	Breasts distended on 4th day.
43	23	1	·19	9th	1st	4th	
44	23	1	·22	3rd	1st	3rd	
45	24	1	·40	5th	2nd	4th	*
46	22	2	·19	4th	2nd	3rd	
47	26	1	·24	9th	2nd	3rd	
48	18	1	·24	5th	1st	3rd	
49	24	1	·50	4th	2nd	4th	Large quantity of sugar.
50	24	1	·34	7th	1st	3rd	
51	25	1	·40	5th	3rd	4th	Slight distension on 4th day.
52	19	1	·67	4th	3rd	3rd	Great distension on 4th and 5th days.*
53	22	1	·34	5th	3rd	4th	Child stillborn and premature.
54	22	1	·34	4th	2nd	5th	
55	20	1	·25	11th	3rd	3rd	Overflowed after 10th day.
56	24	2	·50	5th	2nd	4th	Slight distension on 4th and 5th days.
57	27	3	·34	13th	1st	4th	
58	41	12	·25	3rd	3rd	4th	Small milk supply.
59	20	1	·24	6th	3rd	5th	
60	24	1	·40	2nd	2nd	4th	
61	22	1	·40	2nd	—	3rd	
62	34	1	·40	5th	3rd	3rd	
63	21	1	·50	4th	2nd	4th	
64	21	2	·34	4th	2nd	4th	Child premature; alive.
65	20	1	·24	4th	3rd	2nd	
66	32	5	·40	7th	1st	4th	Breasts distended on 7th day.
67	21	1	·36	14th	1st	4th	Overflow towards end of puerperium.
68	19	1	·34	5th	3rd	4th	
69	20	1	·40	4th	1st	3rd	
70	29	1	·40	5th	1st	4th	Not much milk. Child premature; alive.
71	22	1	·40	5th	1st	3rd	
72	29	2	·50	3rd	1st	3rd	

Case.	Age.	Para.	Greatest quantity per cent.	On what day.	Day of first appearance of sugar.	First day of lactation.	Remarks.
73	22	1	·34	4th	4th	5th	
74	26	1	·40	3rd	2nd	5th	
75	18	1	·34	5th	4th	4th	Breasts slightly distended on 5th day.
76	24	1	·24	5th	1st	4th	Small amount of sugar throughout.
77	20	1	·34	4th	4th	4th	Child weakly; premature.
78	21	1	·24	6th	4th	4th	
79	26	1	·40	5th	—	4th	
80	28	1	·50	3rd	2nd	4th	
81	26	3	·22	2nd	2nd	4th	Very small quantity of sugar,* associated with small supply of milk.
82	25	2	·22	5th	4th	5th	
83	29	2	·40	12th	1st	3rd	
84	29	1	·22	10th	2nd	3rd	Late distension (9th day).
85	20	1	·22	4th	1st	2nd	
86	19	1	·24	4th	3rd	4th	
87	30	1	·24	6th	3rd	5th	
88	36	1	·25	5th	1st	3rd	
89	32	9	·40	4th	2nd	2nd	Child stillborn; premature.
90	19	1	·34	5th	3rd	3rd	
91	20	1	·22	10th	3rd	2nd	
92	20	1	·24	6th	2nd	4th	
93	24	1	·45	4th	4th	3rd	Breasts distended on 4th and 5th days.
94	23	1	·14	5th	—	—	
95	22	1	·40	6th	2nd	4th	Breasts distended on 6th day.
96	25	1	·24	4th	4th	4th	
97	25	5	·65	5th	3rd	4th	
98	27	1	·22	7th	1st	4th	
99	28	1	·34	4th	1st	4th	Inflammation of breast on 9th day.
100	22	4	·34	3rd	1st	4th	

N.B.—The numbers in the three last columns refer to the days of the puerperium.

Dr. AMAND ROUTH, after referring to the value of the authors' paper, asked if they had been able to follow any of the cases so as to ascertain whether the glycosuria persisted. In a paper read before this Society ('Transactions,' vol. xxiv) by Dr. Matthews Duncan, on "Peripheral Diabetes in Pregnancy and Lactation," the author gave notes of several cases of the former and two of the latter where the condition persisted. It was true that in these cases there was a larger percentage of sugar than in the cases now under discussion, but information on the question would be valuable as to the permanency of the tendency in these minor, and primarily perhaps physiological cases.

Dr. BOXALL said that his attention had been early directed to the presence of sugar in the urine of suckling women by a case which was admitted into University College Hospital for the purpose of repairing her perineum. The infant had been taken from the breast on the morning of the preceding day. On examining the urine a copious brick-red deposit of suboxide was given by Fehling's test. The operation was in consequence postponed for a week or two, by which time the sugar had disappeared. Dr. Boxall put forward the practical point for consideration, whether postponement of the operation was or was not advisable in such a case. When resident in the General Lying-in Hospital he had made innumerable observations with regard to the presence of sugar in the urine of lying-in women. His observations coincided in every respect with the conclusions reached by the authors of the paper.

Dr. HORROCKS pointed out that the paper was on a physiological and not a pathological subject. The cases were not diabetic, and in none of them, therefore, was there any reason for hesitating to perform any operation required. In true diabetes the fear of operation might induce coma, but otherwise he knew of no reason for not operating upon diabetic patients.

Dr. WHEATON said that he had examined the urine in a large number of women during lactation, and agreed in the main with the authors' results. He did not, however, think that sugar was so frequently present as stated in the paper. Normal urine always contained a small amount of copper-reducing substances. In the instances where such a small amount as ·17 per cent. of sugar was found by the authors, he thought that the reduction of the copper solution was probably due to uric acid and urates, which were generally present in excess in the urine during the early part of the lactation period. The authors had not shown that the sugar present in the urine was really lactose or milk-sugar, the distinction between which and the ordinary dextrose or diabetic sugar was very difficult. He inquired whether the authors had found any test which would distinguish between these two forms of sugar. It was stated that if lactose were present the urine gave a pink precipitate after boiling with

basic lead acetate and the addition of ammonia, but he had found this test fail even in artificial solutions of lactose. It seemed a most unusual thing that the secretion of a gland should be reabsorbed, and it would be important to ascertain whether the sugar existed in the blood during lactation, and also whether similar phenomena occurred in animals. He had found that in cases where a considerable amount of sugar was present in the urine of the mother, it was also present in that of the suckling infant. This suggested that the sugar in question was incapable of assimilation, and of a more or less poisonous nature; and that its presence in excess in the milk might be injurious to the child. Until the real origin of the sugar was ascertained it was quite possible that it was derived from the liver of the mother, under the influence of a temporary congestion, to which there was a great tendency in the organs during pregnancy and the puerperal period, or a ferment might be present in the mother's blood producing a similar effect by the decomposition of glycogen in the liver. In this case the affection would be a true but temporary diabetes. They had no evidence that permanent diabetes ever followed this condition. The question was of great importance from the point of view of life insurance, although women did not often insure their lives, especially during the lactation period. He thought that a case, in which sugar was present during lactation only, might be accepted at the ordinary rates for insurance.

Dr. Cullingworth, after a few words in commendation of the paper, suggested an alteration in the heading of the last column of the main table, which would, he thought, make its meaning more clear. (Dr. McCann at once accepted Dr. Cullingworth's suggestion.)

Dr. Lewers asked whether reliance had been placed solely on Fehling's test, or whether other controlling observations had been made—for example, by the test with potash, and by taking the specific gravity.

Dr. W. S. A. Griffith remarked that the valuable paper just read, though short, was the outcome of a great deal of work done by Dr. McCann while resident at Queen Charlotte's Hospital. The chief results of this investigation were the demonstration of the constancy of the presence of some form of sugar in the urine of nursing women, and the probable explanation of this as a reabsorption process from the mammary glands varying in quantity with the activity of secretion, and the difficulty with which the breasts were emptied, and, as had been suggested, possibly with the composition of the milk. He asked whether the effects attributed to belladonna were not probably to be explained by the same causes, the emptying of the breasts being suddenly arrested?

Dr. McCann on behalf of Dr. W. A. Turner thanked the Fellows of the Society for the reception given to the paper. The object of the investigation was to determine whether or not sugar

be present in the urine of every woman at some period during lactation. For this purpose one hundred cases were recorded, and over 1400 samples of urine tested. Although more or less definite statements on this subject appeared in the text-books, yet the largest number of cases systematically investigated was twelve. In the present series of observations the condition of the mammary glands and the presence of sugar in the urine were recorded daily. The authors followed strictly the method of testing with Fehling's solution advocated by Sir William Roberts. (1) Avoid prolonged boiling. (2) Allow suspected urine to stand twenty-four hours before deciding that it does not contain sugar. (3) Do not add excess of urine. In answer to the questions asked, Dr. McCann pointed out the importance of distinguishing between glycosuria and diabetes. As was the case with albuminuria, glycosuria with absence of constitutional symptoms was of little importance. He agreed with Dr. Amand Routh in thinking that the cases should be traced, but this was impossible, owing to lactation being stopped when the patients left the hospital. In answer to Dr. Wheaton, he stated that defective methods of testing accounted for the statement that sugar was seldom found in the urine during lactation, that the only method of distinguishing glucose from lactose was by the polariscope; that where much sugar was present in the urine, and probably accompanied by a large amount of lactose in the milk, the nutritive value of which was diminished (see Case 9 in paper), and that he purposed making some experiments on animals as to the presence of sugar in the blood. Various tests had been employed; the quantitative estimation was made with Pavy's solution. Sugar disappeared from the urine quicker when belladonna was applied to the breasts. In conclusion he referred to the many important points still requiring elucidation as to the composition of the milk, its nutritive value, and the condition of the blood during lactation.

A CASE OF GALACTORRHŒA DURING A FIRST PREGNANCY.

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(Received February 11th, 1892.)

The case here recorded was under the care of Dr. Fentem, of Catcliffe, Bakewell, who has sent me the notes and given me permission to publish them.

The common definition of galactorrhœa is an excessive flow of milk, accompanied with marked debility and wasting of the patient. But though these latter were fortunately absent in this case, it may fairly be called a case of galactorrhœa, and we must modify our definition accordingly, and include cases of copious milk-flow in pregnant and non-pregnant women.

The close relationship between the uterus and the breasts needs no demonstration, and it would seem a very short step for the active mammary gland of pregnancy to complete its function and secrete milk as after delivery.

Treatment in this case was of the usual kind, and apparently was without material benefit, and probably nothing short of the termination of the pregnancy would have arrested the milk-flow.

Mrs. R—, aged 28, was married on February 18th, 1890. She had enjoyed good health all her life, and first menstruated when thirteen and a half years old, keeping regular until her marriage. A fortnight after this the bowels, which previously had been regular, became obstinately constipated, and the appetite bad. There

was at first much sickness. On March 28th she noticed that the left breast was secreting milk, and three weeks after the right one began. At first the quantity measured from 2 to 4 oz. from each daily, but in three months it increased to from three quarters of a pint to a pint, and some days even more. The secretion was at first like watery milk, but it soon became thicker, and at times was like cream. As a rule it was like new milk. The breasts were very small before marriage, but began to enlarge immediately after. In July, the patient felt very weak and had much headache, especially frontal, and had pains down the shin-bones with aching of the feet, which burned much at night.

The treatment consisted in the administration of iron and quinine with pilocarpine, and in firmly bandaging the breasts, and applying pads made of absorbent wool, which gave relief; on August 29th the breasts had almost ceased to run, but ten days later they suddenly began again, and continued until the day of her confinement, November 22nd, 1890. During the last month the quantity of milk was less than at any period after March 12th.

After her confinement both mother and child did well; there was more milk than the child could take, and at times it ran quite in a stream, but the mother's health was not impaired by it.

In September, 1891, however, Mrs. R— complained of weakness and faintness when exerting herself, and Dr. Fentem advised her to nurse the baby only at night; there was still plenty of milk, and the baby was thriving. At the end of this month she cut her hand badly, losing a large quantity of blood. From this time the milk gradually diminished, and ceased on October 28th, 1891. Menstruation had returned in June, 1891, profusely the first time, and recurred three times afterwards up to September, 1891, when she was quite strong and well.

There was no history of phthisis in the family: her mother suffered from cancer of the breast, and died at

the age of forty-five; her father died, aged fifty-one, from apoplexy; there are two brothers and two sisters living and in good health.

February 9th, 1892.—Mrs. R— is again pregnant, and thinks she must take the time from September or early in October; she is very well, and suffers none of the inconveniences of her first pregnancy; the breasts seem perfectly quiescent.

Very few writers refer to the occurrence of galactorrhœa during pregnancy; this case appears to be exceptional in its occurrence in a first pregnancy, and, indeed, almost at its very commencement.

Most authors do not describe this form; those who do, merely mention it without remarks and without reference to cases. The same two cases are quoted by C. Devilliers ('Dictionnaire de Médecine et de Chirurgie pratique,' t. xv, p. 544, 1872), and by Guéneau de Mussy ('Archives générales de Médecine,' 1856, p. 649).

(1) A married woman, aged 26, ceased nursing fifteen days after delivery, both breasts being inflamed; the right continued to secrete a little clear fluid, which increased considerably when she again became pregnant; the flow continued through the second pregnancy. After a normal delivery profuse galactorrhœa ensued.

(2) A woman in the fifth month of pregnancy (it is not stated which pregnancy) suffered from a flow of milk measuring about one and a half pounds a day, which was diminished by treatment to one half-pound; both mother and baby did well.

These are the only cases I have been able to find.

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